

A SPATIAL ANALYSIS
OF TERRORIST
TECHNIQUES

by

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PREFACE

The major objective of this research was to determine if there is a discernible spatial pattern of terrorist techniques. Five variables were analyzed using the chi squared test of significance and the coefficient of correlation. It was found that there are certain conditions which appear to exert some influence over the choice of technique in a particular situation.

Two major difficulties were encountered in the early stages of this research. The first was deciding what specific aspects of terrorism I wanted to study. There are numerous interesting aspects which I would like to research more thoroughly, but it was apparent that I had to limit myself in some manner. The second difficulty was encountered when I attempted to obtain data. I was dismayed by the lack of response by the various government agencies which I contacted as possible data sources. This is a problem that all who study terrorism will face, unless they happen to be working for one of those agencies.

A third difficulty presented itself when my husband and I made the decision to move away from Stillwater in the middle of my research. Finishing a thesis is difficult enough for a resident student, and for one who is living 250 miles away it can seem like an impossible dream. The dream, however, was made possible, not only by my own desire to finish, but also by those who assisted me in various ways.

I would like to express my sincere gratitude to all of these persons. I would particularly like to thank my thesis adviser,

Dr. Robert E. Norris, for his constant guidance, willingness to help, and quick responses to my pleas for assistance. I am also thankful to my other committee members, Dr. Keith D. Harries and Dr. George O. Carney, for their advice, encouraging comments, and patience during the course of this work.

I am grateful to my parents for their support, and to my husband, Belal, not only for his constant encouragement and confidence in my abilities, but also for telling me that I needed to study when I didn't really want to.

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CHAPTER I

INTRODUCTION

The increase in the number of terrorist incidents in recent years has sparked interest and concern in such phenomena all over the world. Since 1968 the overall number of incidents has risen dramatically. Most authors agree that the terrorism of today, although it has its roots in history, is a relatively recent phenomenon. As Edward F. Mickolus pointed out, "although terrorism has been with us for centuries . . . , its adoption in the last decade by hundreds of groups as a means of political expression is new."¹ The authors do not agree, however, on why terrorism developed into what it has become, or why it has been increasing. The growing interest in the subject of terrorism has brought forth a large amount of literature. Even so, terrorism remains a very complex problem. As Luigi Bonanate pointed out, "very often it has been the object of insults and accusations rather than of analyses, giving rise to moralistic positions rather than scholarly discussions."² A review of the available literature on terrorism reveals that the main emphasis is on subjective discussion. The actual subject of these discussions varies considerably, however, little attempt is made to statis-

¹Edward F. Mickolus, Transnational Terrorism, (Westport, Conn., 1980), p. xii.

²Luigi Bonanate, "Some Unanticipated Consequences of Terrorism," Journal of Peace Research, Vol. 16, No. 3 (1979), p. 197.

tistically support the theories which are set forth in the discussions.

The apparent lack of analyses of terrorism is perhaps due mainly to two factors. Both of these factors, which are also related to one another, stem from the very nature of terrorism itself. They are: 1) the absence of a widely accepted definition of terrorism and, 2) the difficulty of obtaining reliable data. The first factor is, in itself, a complex problem. This is evidenced by the amount of literature which is devoted solely to defining terrorism. In his article, "Terrorism and the Liberal State," Daniel Georges-Abeyie states that "there are probably as many definitions of terrorism as there are authors writing on the subject."³ One aspect of this problem exists with the distinction between those acts which are labelled terroristic and those which are considered to be simply criminal. As an example of this problem, one might consider the question of kidnapping. If a terrorist group kidnaps a prominent businessman for the purpose of extorting funds to continue their terrorist activities, should this action be considered simply a criminal act or an act of terrorism? Another problem involves the distinction between, as Frederick Hacker defines it, terror from above (imposed by those in power, directed against those not in power) and terror from below (imposed by those not in power, directed against those in power).⁴ This problem was also noted by J. Bowyer Bell as he stated, "after all, one man's terror is another's patriotism."⁵ It is

³Daniel Georges-Abeyie, "Terrorism and the Liberal State: A Reasonable Response," Police Studies, Vol. 4 (1981), p. 34.

⁴Frederick J. Hacker, Crusaders, Criminals, Crazies, (New York, 1976).

⁵J. Bowyer Bell, "Transnational Terror and World Order," South Atlantic Quarterly, Vol. 74 (1975), p. 405.

interesting to note that those who some refer to as terrorists are known as freedom fighters to others. Another aspect of the definitional complexity is the distinction between terrorism and guerrilla warfare, a subject which is popular in the literature of terrorism. Because of these difficulties, a definition of terrorism must be developed in the early stages of analysis, and it must be one which is clear and concise, and which addresses the various aspects of terrorism which hinder objective analysis.

The second factor which appears to cause difficulties in the study of terrorism is the difficulty of obtaining reliable data. Since field research tends to be a risky undertaking researchers must depend on information which is collected by private sources or that which is available from the government. The problems associated with using secondary data sources are particularly relevant to the subject of terrorism. Data obtained through private sources may have been collected for a specific purpose other than what the researcher intends to use it for and the researcher must account for this. Consequently, acts which may be purely criminal might have been included as terroristic, or vice-versa. This problem is related to the definitional problem such that the original source might have developed an entirely different definition of terrorism than that which other analysts using the same data have developed. This may yield unreliable results. On the other hand, data obtained through the government tends to be more reliable. It is not, however, very detailed and it is difficult to obtain, and therefore the researcher may have to modify his analysis in order to make use of the data which is available.

Even so, the problem of terrorism is important enough to warrant

as much detailed analysis as is possible under the circumstances. As Stephen Sloan pointed out,

while the topic of terrorism is indeed inherently emotive, the fact remains that one can and must devise objective criteria to study incidents of terrorism in order to suggest alternative responses and policies.⁶

It is clear that a problem exists, and it is also clear that not enough is known about the problem. In order to understand it more thoroughly, analysis is necessary.

A. Justification for Study

Stephen Sloan, who was mentioned above, introduces a need for scholarly research on terrorism. Sloan feels that the academic community is the ideal setting for research on terrorism, because of increased cooperation among academicians conducting research. Although governmental agencies are conducting research on terrorism, they are not always willing to publicize their results. Whereas, terrorist groups are increasingly cooperating with each other, governments are not willing to cooperate and are therefore incapable of formulating a cohesive and coherent response. Sloan continues by stating,

This lack of a coherent response, particularly in reference to the collection and evaluation of information, places a particularly heavy responsibility on those within the social sciences who study terrorism. They must provide a neutral framework where information can be shared, thereby providing an opening in the barriers to dissemination that often categorize the relationships among respective intelligence agencies who may not fully share information because of the high levels of security consciousness.⁷

⁶Stephen Sloan, "International Terrorism: Academic Quest, Operational Art, and Policy Implications," Journal of International Affairs, Vol. 32, No. 1 (1978), p. 2.

⁷Ibid., p. 5.

Heretofore, those analyses which have been undertaken, particularly within the academic community, were mostly performed by those in the realms of political science, sociology, and psychology. Why then, should a geographic study of terrorism be undertaken?

The discipline of geography offers a unique viewpoint which allows for a broad view of many subjects. Given the properties of terrorism and the complex interrelationships between the many aspects which are associated with it, it is likely that research which is undertaken from a geographic perspective would indeed benefit from such an orientation. The nature of terrorism is such that one cannot say that it is purely political, nor is it purely economic, or purely social. Consequently, researchers of terrorism should be able to incorporate political, economic, and social aspects into their research. Geographers are, perhaps, best qualified to adopt this type of orientation. Even so, is terrorism proper subject matter for geographic study? Haring and Lounsbury state that, "any material or non-material thing which can be identified, classified, and located is proper subject matter for geographic study."⁸ Terrorism does, in fact, meet these requirements.

Terrorism has already been identified as a complex phenomenon. Given limited resources it is therefore necessary to limit research on terrorism in some manner, by selecting the aspects of terrorism which can be analyzed. Therefore, having identified terrorism as proper subject matter for geographic study, it then must be decided what aspects of terrorism will be analyzed.

⁸L. Lloyd Haring and John F. Lounsbury, Introduction to Scientific Geographic Research, (Dubuque, 1975), p. 8.

B. Problem Statement

The major objective of this research will be to analyze the geographic aspects of the different methods of terrorist attack. More specifically it attempts to answer the following question: Is there a discernible spatial pattern of terrorist techniques? After a review of the literature on terrorism, five aspects which appear to figure significantly in determining whether or not a spatial pattern of terrorist techniques does exist, were chosen for this analysis. These aspects are: regional affiliation, degree of urbanization, level of per capita gross national product, freedom of the press, and governmental stability. It should be noted that the first aspect, regional affiliation, is based solely on locational proximity. Within each major world region exist vast political and economic, as well as cultural, differences. The last four aspects, therefore, represent an attempt to account for some of these differences. It is hoped that these aspects will incorporate into the analysis some of the conditions which may nurture differences and similarities in the use of terrorist techniques. Each aspect is listed below, followed by some justification and explanation for their inclusion in this research.

1. Regional Affiliation

Do significant differences exist in the types of techniques employed from one region to another? A survey of the literature on terrorism, particularly those books and articles which emphasize terrorism in different areas of the world, indicates that such differences do exist. According to a State Department publication entitled International Terrorism: Hostage Seizures, 47% of all terrorist

seizures that occurred between 1968 and 1982 took place in Latin America whereas, 15.2% took place in Western Europe.⁹ Another State Department publication indicates that of the bombing incidents which are recorded for 1982, 60.2% occurred in Western Europe and only 17.2% occurred in Latin America.¹⁰ From this it might be concluded that seizing hostages is a much more popular technique among Latin American terrorist groups, whereas the terrorist groups in Western Europe favor the use of the bomb. However, such drastic differences are not observable across all regions or all techniques, and the statistics mentioned are not directly comparable since one involves a time period of 15 years and the other includes only one year of data. Even so, significant differences can be expected in this analysis. It should be noted that a regional analysis of terrorism must be interpreted carefully since each region may include individual countries which have not experienced any terrorist attacks, although in such an analysis they would still appear to be included within the region.

2. Degree of Urbanization

Do significant differences exist among the types of techniques employed in countries which are highly urbanized and those employed in countries which are not highly urbanized? A common myth about terrorism, or unconventional warfare in general, is that the terrorist always operates in an urban environment. Guerrillas, on the other hand, are

⁹U. S. Department of State, International Terrorism: Hostage Seizures, (Washington, March, 1983), p. 6.

¹⁰U. S. Department of State, Patterns of International Terrorism: 1982, (Washington, September, 1983), p. 8.

believed to operate solely in rural environments. Many believe that this is the only distinction between the two groups of fighters. However, this distinction is not entirely true. There are instances where terrorist incidents are carried out in rural areas and guerrilla attacks have occurred in urban areas. However, there is a general trend that supports this myth, and the reasons for the trend are logical. It must be remembered that a terrorist group needs a target, and whether it be a building or a person, the prime targets are generally located in urban areas. Even so, there are some techniques which are more often associated with rural environments. For instance, an ambush might be more easily accomplished in a rural setting, or it might be a more popular technique in a country which is not highly urbanized. Arson, on the other hand, is a technique which has as its target a building, and therefore may be a more popular technique in urbanized areas, where there would be more available targets. Therefore, a significant difference might be expected between those techniques which are associated with more urban targets and those which are associated with rural targets.

3. Level of Per Capita Gross National Product

Do significant differences exist among the types of techniques employed in countries at varying levels of per capita gross national product? Per capita gross national product has been chosen for this analysis to represent economic differences between countries. Miller and Russell (1979) developed a hierarchy of terrorist techniques which is based on the level of competence needed by the terrorist group to accomplish each technique. As the level of competence increases the

cost also increases. The hierarchy, from highest level of competence to lowest is reproduced in Table I.

TABLE I
HIERARCHY OF COMPETENCE REQUIRED
FOR SELECTED TECHNIQUES

Mass Destruction
Mass (National) Disruption
Kidnapping
Hijacking
Assassination
Facilities Attack/Barricade and Hostage
Bombing

Source: Bowman Miller and Charles A. Russell, "The Evolution of Revolutionary Warfare: From Mao to Marighella and Meinhof," in Robert Kupperman and Darrell Trent (eds.), Terrorism (Stanford, 1979), p. 193.

It is possible that a similar hierarchy of technique use can be formulated by examining economic differences between countries experiencing terrorist attacks. Whereas, a homemade bomb can be fashioned out of household materials, a kidnapping or assassination requires more sophisticated weaponry, as well as more detailed planning. The

differences in competence required to perform each technique might be associated with the economic development of the countries involved. Another aspect of this variable which might prove to be important is the idea that less developed countries might not have as many available targets for terrorists.

4. Freedom of the Press

Do significant differences exist among the types of techniques employed in countries which have different levels of freedom of the press? The role of the media in a terrorist incident has been of considerable interest in recent years. This trend is certainly understandable given the nature of terrorism and its dependence on the media for free publicity. It is not likely that a terrorist group will attempt an incident which will not succeed in bringing attention to their long-range goals. Although some terrorist incidents might be effectively hidden from the public through suppression of the media, an incident of sufficient magnitude will reach the public no matter how restrictive the government is. Therefore, it is possible that techniques which are associated with far-reaching consequences will be more prevalent in countries which restrict the press. However, this may not be proof that incidents of a lesser magnitude do not occur in such restrictive countries, rather they simply may not have been included in the official reports.

5. Governmental Stability

Do significant differences exist among the types of techniques employed in countries with relatively stable governments and those

employed in countries with relatively unstable governments? If a government is relatively unstable it is possible that even the most minor incident may cause irreparable harm to the government. On the other hand, a major incident, such as the assassination of a major government official, might harm even the most stable government. A series of incidents would point out the government's inability to deal with the situation and this also might threaten the stability of the government. If this is so, there should be a significant difference among the types of techniques more frequently employed in countries with stable governments and those employed in countries with relatively unstable governments.

6. Summary of Levels of Analysis

Although the possible differences in the employment of terrorist techniques which have been postulated here might be considered to be logical assumptions, the conclusions are not a certainty. Also, if significant differences are found, the extent to which these differences occur is not known. These two aspects---whether or not significant differences exist and if so, to what extent, will be the main focus of this research. If significant differences are found, this type of knowledge might be of use to those who are working towards both prevention of terrorist incidents as well as development of counter-terrorist strategies and techniques. Prior knowledge about the trends of terrorism in particular areas can help those involved in combatting terrorism handle terrorist incidents more efficiently.

C. Methods of Data Collection and Analysis

Data for this analysis have been collected from a secondary data source. Although the problems associated with secondary sources have already been explained, the secondary source was the only one available. Several agencies in the United States government were contacted, including the Federal Bureau of Investigation, the Central Intelligence Agency, and the Office for Combatting Terrorism, however, none of these agencies professed themselves able to help. The data source which was used, therefore, is Edward F. Mickolus' book, Transnational Terrorism, which is a chronology of terrorist incidents between 1968 and 1979. Mickolus is considered to be a leading authority on the subject of terrorism. The data which comprise Mickolus' book come from a computer data base developed by him entitled ITERATE (International Terrorism: Attributes of Terrorist Events). Mickolus himself notes the difficulty in obtaining reliable data on terrorism as he points out,

the reporting on terrorist incidents is uneven, varying with the quality of the reporting source (usually a major U.S. or foreign newspaper but sometimes including government accounts), the importance of the incident to the source, and the success of the terrorists in publicizing their acts.

Mickolus continues by stating that,

It is unavoidable that there are gaps in the descriptions of specific incidents, and some in fact may have been conducted by individuals not seeking political goals.¹¹

Mickolus' book consists of a listing of terrorist incidents categorized by the date of the incidents. Following the date is the country in which the incident took place and a short summary of the incident

¹¹Mickolus, p. xxxviii.

including the type of attack. The raw data have been portrayed in a matrix form, including all incidents from January 1, 1969 through December 31, 1979. For the purpose of this study the definition of terrorism will be one which was developed by the Office for Combatting Terrorism, Department of State, as follows:

Terrorism: The threat or use of violence for political purposes by individuals or groups, whether acting for or in opposition to established governmental authority, when such actions are intended to shock, stun, or intimidate a target group wider than the immediate victims.¹²

This definition coincides very closely with Mickolus' own definition of terrorism.

The categories of terrorist technique which are used by the Central Intelligence Agency in their yearly summary reports on terrorism will be used for this research. These categories are kidnapping, barricade and hostage, explosive bombing, armed assault or ambush, hijacking, assassination, incendiary device or arson, and other. It is generally agreed that bombs and incendiary devices, such as molotov cocktails, are the most popular terrorist techniques because of the relative ease in obtaining the necessary materials for construction and the fact that throwing a bomb or incendiary device involves relatively little risk to the terrorist. There has not, nor is there expected to be, a noticeable trend towards sophistication in the form of mass destruction incidents. Pistols, rifles, and even machine guns are also relatively easy to obtain, however, use of these for either an ambush or assassination attempt also involves careful planning, prior knowledge about the victim or victims, and more risk to the terrorists. Such diffi-

¹²U. S. Department of State, (March, 1983), front cover.

culties make these techniques less popular than bombs or incendiary devices. Kidnapping consists of taking a victim or victims and moving them from one place to another. It does not have to include a demand for ransom, rather the victims may be simply questioned, held for a period of time, and released. Barricade and hostage incidents, on the other hand, involve capturing victims but remaining in the place of capture. They almost always involve some demands in return for safe release of hostages. Hijacking is a mobile barricade and hostage incident, taking place on some form of transport. The "other" category will include those techniques which do not fall into any of the first categories and may include a variety of incidents such as sabotage, burglary, or the use of chemical substances.

The eight geographic regions to be used in this analysis are Asia, Latin America, Middle East and North Africa, North America, Oceania, Sub-Saharan Africa, USSR and Eastern Europe, and Western Europe. The countries which are included in each of these regions are listed in Appendix A. The urbanization categories are based on Banks and Textor's A Cross Polity Survey and incorporate the following guidelines:

1. High (20% or more of population in cities of 20,000 or more and 12.5% or more of population in cities of 100,000 or more)
2. Low (less than 20% of population in cities of 20,000 or more and less than 12.5% of population in cities of 100,000 or more).¹³

The levels of per capita gross national product are based on figures obtained from a World Bank publication. Categories of per capita gross national product were decided upon as follows:

¹³Arthur S. Banks and Robert Textor, A Cross Polity Survey, (Cambridge, 1963), p. 60.

1. Low (gross national product equal to or less than 500 1978 U.S. dollars)
2. Medium (gross national product greater than 500 but less than or equal to 3,500 1978 U.S. dollars)
3. High (gross national product greater than 3,500 1978 U.S. dollars).

The political aspects of this analysis, freedom of the press and governmental stability, will also be categorized according to the survey by Banks and Textor. Freedom of the press will incorporate the following guidelines:

1. Complete (no censorship or government control of either domestic press or foreign correspondents)
2. Intermittent (occasional or selective censorship of either domestic press or foreign correspondents)
3. Internally Absent (strict domestic censorship; no restraint on foreign newsgathering, or selective cable-head censorship)
4. Internally and Externally Absent (strict direct or indirect censorship or control, domestic and foreign).¹⁴

Levels of governmental stability will be as follows:

1. Government generally stable since World War I or major interwar constitutional change
2. Government generally stable since World War II or major postwar constitutional change
3. Government moderately stable since World War II or major postwar constitutional change
4. Government unstable since World War II or major postwar constitutional change.¹⁵

The data have been analyzed using the chi squared technique in order to test the following hypotheses:

¹⁴Ibid., p. 67.

¹⁵Ibid., p. 84.

1. There is a significant difference between the observed and expected frequencies among the types of terrorist techniques employed in the eight regions of the world.
2. There is a significant difference between the observed and expected frequencies among the types of terrorist techniques within the two categories of urbanization.
3. There is a significant difference between the observed and expected frequencies among the types of terrorist techniques employed within each of the three categories of per capita gross national product.
4. There is a significant difference between the observed and expected frequencies among the types of terrorist techniques employed in each of the four categories of freedom of the press.
5. There is a significant difference between the observed and expected frequencies among the types of terrorist techniques employed within each of the four categories of governmental stability.

Having outlined the proposed research to be undertaken, a review of relevant literature on terrorism will be included for more in-depth background knowledge of the subject. This review will make up Chapter II. Chapter III consists of the analysis of the data and Chapter IV includes interpretations of the results obtained from the analysis.

CHAPTER II

MAJOR THEMES IN TERRORISM LITERATURE

A. Introduction

It was mentioned in Chapter I that the growing interest in terrorism has brought forth a large amount of literature. Because of the complexity of the subject, most authors tend to emphasize only a few aspects of terrorism in their writing. Therefore, the literature of terrorism varies widely in perspective. A review of the literature, however, does reveal some common ground for discussion. Those themes which either pertain directly to this analysis or can be used to illustrate one or more of the aspects which reveal the nature of terrorism will be included in this review.

B. The History of Terrorism in Literature

Many authors have chosen to analyze terrorism in historical context (Laqueur, 1977; Hacker 1976; Miller and Russell, 1979). There is a general consensus among these authors that the roots of terrorism reach far into the past. Clutterbuck (1980) sees the basis of terrorism as dating back to the beginning of civilization, and Laqueur states that, "seen in historical perspective the various manifestations of terrorism, however different their aims and the political context, had

a common origin."¹

A somewhat different view of terrorism through the ages is David Fromkin's (1975), who postulated that the basic distinction between terrorism of the past and terrorism of the present is that terrorism is now used to destroy governments whereas in the past it was used to sustain them. However, many authors would not agree with this distinction, because it does not allow for the possibility of state supported terrorism.

Rather than study the history of terrorism, some authors have instead examined historical approaches to the study of terrorism, including the various theories which have been postulated through the years. Studies such as Luigi Bonanate's (1979) represent valuable analyses to which future researchers can refer to and build upon.

C. Defining Terrorism

One popular topic in terrorism literature, as well as one of the most important aspects of the subject, is the absence of an accepted definition of terrorism. Several authors have written extensively on the subject, and many others at least mention the problems associated with it (Dugard, 1974; Georges-Abeyie and Haas, 1982; Hutchinson, 1972; Iviansky, 1977). Hutchinson stated that "unfortunately most modern analyses of internal warfare, when they define 'terror' or 'terrorism' at all, do not improve on the older attempts and often sacrifice clarity for brevity."² This suggests that future researchers can and

¹Walter Laqueur, Terrorism, (Boston, 1977), p. 11.

²Martha Crenshaw Hutchinson, "The Concept of Revolutionary Terrorism," Journal of Conflict Resolution, Vol. 16, No. 3 (1972), p. 282.

should learn from the definitional attempts of the past. However, unlike Ms. Hutchinson's belief that many researchers fail to do so, some literature which deals with the definition of terrorism does examine past definitions, and attempts are made to point out the problems which have been encountered with each. Daniel Georges-Abeyie, for instance, uses this technique. After explaining various past and present definitions, he concludes, "in sum, there is no single widely or universally accepted definition of terrorism."³ Georges-Abeyie continues however, by emphasizing that to clarify the concept of terrorism, distinctions should be made between terrorism and other forms of violence. Once distinction that is made by Georges-Abeyie is between a terrorist and a guerrilla. It was previously mentioned that the simple differentiation that terrorists operate only in urban areas and guerrillas operate only in rural areas is a false one. Although Georges-Abeyie does include a rural focus for guerrillas and an urban focus for terrorists he also points out that this differentiation is not always true (Table II).

The clarification of terrorism by distinguishing it from similar forms of violence appears to be a good method, and used correctly, the distinction can act as a substitution for developing a definition in analysis. This could be accomplished by developing criteria by which a researcher can decide whether or not a particular incident is terroristic or not.

³Daniel Georges-Abeyie, "Political Crime and Terrorism," in Graeme R. Newman (ed.), Crime and Deviance: A Comparative Perspective, Sage Publishing Co., 1980, p. 314.

TABLE II
DIFFERENTIATING FACTORS BETWEEN
TERRORISTS AND GUERRILLAS

Terrorist	Guerrilla
1. Urban focus	1. Rural focus is primary
2. Object of attack includes property and civilians	2. Object of attack usually includes military, police, or government officials
3. Operates in small bands of terrorist cadre (usually three to five members or up to 20)	3. The organization can grow quite large and eventually take the form of a conventional military force

Source: Daniel Georges-Abeyie, "Political Crime and Terrorism," in Graeme R. Newman (ed.), Crime and Deviance: A Comparative Perspective, Sage Publishing Co., 1980, p. 319.

D. The Role of the Media

Not suprisingly, many authors have devoted sections of their articles and books to the role of the media in a terrorist incident (Alexander, 1978; Redlick, 1979). The subject has been mentioned in connection with the fourth level of this analysis which examines the effect of freedom of the press on the terrorist's choice of technique. Yonah Alexander includes the role of the media as one of ten factors which he believes to be the reasons for continued terrorist activities. Some of the other factors which are included in this list are a lack of understanding of the causes of terrorism, the support of terrorism by some governments, weak punishment of terrorists, and loss of resolve

by governments. Further, Alexander stresses that terrorists use the mass media to attain at least one of the following goals:

- 1, to enhance the effectiveness of their violence by creating an emotional state of extreme fear in target groups, and
- 2, to draw forcibly and instantaneously the attention of the whole world to themselves in the expectation that these audiences will be prepared to act or, in some cases, to refrain from acting in a manner ⁴that will promote the cause they presumably represent.

Alexander also points out that not only does the mass media provide terrorists with free publicity, but also may hinder law enforcement activities by supplying the terrorists with information concerning what officials are planning in retaliation.

Amy Sands Redlick feels that the media, because of the flow of information it creates, has a catalytic effect on terrorism. Redlick lists three reasons why this flow has such an effect on terrorism:

1) it provides technical information for terrorist groups to be used in planning incidents, 2) it has contributed to the justification of the use of violence through groups being able to observe the successes and failures of other groups, and 3) in an ethnically divided society such as exists today, groups which might normally have no contact now cooperate with each other as sources of information because of increased communications.

Some authors have mentioned that terrorism is like the theater, because it feeds on the effect it makes on the audience. With new advances in media communications, the audiences for terrorist incidents are suddenly much larger. The actual effect of the mass media on

⁴Yonah Alexander, "Terrorism, the Media, and the Police," in Robert Kupperman and Darrell Trent (eds.), Terrorism, (Stanford, 1979), pp. 332-333.

terrorism is much more complex than the few ideas which have been presented in this review. However, they do at least give some indication of the importance of the mass media to terrorism and suggest a link between terrorism and the degree of freedom of the press within a country.

E. The Trends of Terrorism

In order to keep terrorism in perspective, articles and book which analyze the trends of terrorism are important (Carlton, 1979; Jenkins, 1978; Wilkinson, 1979). Brian Jenkins includes a yearly summary of terrorist incidents as well as a summary of the number of killings resulting from terrorist incidents. Jenkins also examines the public's perception of terrorism each year. He notes that there is a discrepancy between the public's perception and the actual statistics about what is a "good year" and what is a "bad year" numerically. He offers a possible explanation for this discrepancy by stating that "terrorism is not simply what terrorists do, but the effect--the publicity, the alarm--they create by their actions."⁵ Jenkins concludes that the future is likely to bring about the emergence of a new sub-culture of terrorism as it becomes more mafia-like.

Unlike Jenkins, Carlton chooses only to make general interpretations of the trends of terrorism in the future. He does, however, offer four determinants which, in combination, are believed to hold the answer to whether or not terrorism will increase. These are: 1) the rate of technological innovation as it affects terrorism in the devel-

⁵Brian Jenkins, "International Terrorism: Trends and Potentialities," Journal of International Affairs, Vol. 32, No. 1 (1978), p. 119.

opment of techniques for terrorism and counterterrorism, 2) self-imposed restraints on the part of the terrorists based on the idea that they do not want to outrage the public and the government to such a point that they lose all public sympathy and support, 3) countermeasures which are available to individual sovereign states for prevention of terrorism or effective handling of terrorist incidents when they do occur, and 4) the international dimension of the prevention and promotion of terrorism involving both increased cooperation between governments to control terrorism and increased cooperation between terrorist groups to attain their goals. Carlton concludes that terrorism is likely to increase within certain limits.

F. Typologies and Classifications of Terrorism

In order to overcome the difficulties arising from the definitional disagreement of terrorism, some authors have instead elected to develop typologies or classification schemes (Bell, 1975; Iviansky, 1977; Karber, 1971; Shultz, 1978). Typologies represent a method by which the scope of a subject under analysis can be limited, and therefore are very valuable in the study of terrorism.

Some of the classification schemes simply attempt to divide different types of terrorism according to selected variables. J. Bowyer Bell, for instance, lists three ways in which terror might be employed which are differentiated by the relationship between the victim (the actual object of attack) and the target (the individual or group which is expected to react to the incident). The three ways of employing terror are functional, provocative, and symbolic. In the first, functional, the aim is to remove a particular asset (or victim) and

therefore, the victim is the same as the target. Provocative terror means that the victim is attacked but the target does not react appropriately, instead of giving into demands the target is provoked into action. Symbolic terror involves a victim which is representative of the target. For example, the victim might be a corporate executive, the target is the corporation.

Another simple classification scheme is Ze'ev Iviatsky's, which consists of three types of terrorism: that which is associated with anarchy, that which is associated with social revolution, and that which is associated with national liberation. According to Iviatsky, these three types of terrorism are distinctly different from each other as they are employed in the contemporary world. Terrorism which is associated with anarchy is not backed by a group, rather it is carried out by an individual. The terrorism of a social revolution involves terrorist groups whose goals include freedom from tyranny within the group's own society. The third type of terrorism includes terrorist groups who are fighting the cause of national liberation from foreign rule. This classification is based on distinctions between the motives of the terrorists.

Richard Shultz outlines a more detailed and comprehensive typology by beginning with a discussion of past typologies. Among these are E. V. Walter's two-part typology (terrorism employed by those aspiring to power; and terrorism employed by those in power) and Paul Wilkinson's three-part typology (revolutionary terrorism which is directed towards bringing about a complete change of basic social processes, sub-revolutionary terrorism which is an attempt to bring about some changes within the existing system, and repressive terrorism which is employed

to restrain certain groups from unacceptable behavior). Shultz explains the problems of Wilkinson's typology thus, "finally, and most significantly, Wilkinson's three dimension typology is not accompanied by a set of variables that allow for more rigorous and discriminate classification."⁶ Shultz continues by saying that with such a set of variables a researcher should be able "to generate and test broader and more comparatively derived hypotheses."⁷ Shultz's typology includes Wilkinson's three-dimension typology to which is added seven variables which are considered to be significant in classifying terrorism. These variables are causes (conditions---economic, political, social or psychological---which may cause a group to resort to violence), environment (either contained within one country or global), goals (the objectives of the terrorist group), strategy (the planning of methods to bring about the objectives), means (the techniques which are available), organization (the structure which is used for planning and execution), and participation (the type of person who takes part in terrorism). The emergence of similarities as well as differences between and within categories of this typology may lead to the introduction of new variables for further research.

Typologies enable researchers to precisely define their categories and thereby subject their data to more rigorous analysis. The basic goal of most typologies is to progress from subjectivity to objectivity, a progression which should be helpful in the study of terrorism.

⁶Richard Shultz, "Conceptualizing Political Terrorism: A Typology," Journal of International Affairs, Vol. 32, No. 1 (1978), p. 9.

⁷Ibid.

G. Psychosociological Studies of Terrorism

Articles such as those by Paul Wilkinson (1979) and David Fromkin (1975) include explanations of the authors' attempts at analyzing the reasons behind terrorism and terrorist strategies. Wilkinson, for example, emphasizes the variations on the theory of frustration and aggression. Basically, this theory postulates that if an individual is unable to attain the goals he has set for himself he becomes frustrated and the frustration may lead to aggression. The aggression often is manifested in some form of violence. Closely linked to these articles are those in which the author stresses the psychosociological aspects of terrorism.

Although Hannah Arendt (1969) places most of her emphasis on state violence she makes some very enlightening statements concerning the relationship between power and violence. She feels that power and violence are opposites, where one rules absolutely the other is absent. This would suggest that terrorist groups can never hope to gain power, unless they eventually abandon their violent tactics.

Frederick Hacker (1976) lists three types of terrorists which are differentiated by the motivation each one possesses: the crazy, driven by reasons of his own that often do not make sense to normal people; the criminal, who uses illegitimate means to obtain personal gain; and the crusader, who is idealistically inspired. It is the last type, the crusader, that Hacker believes is the genuine terrorist.

H. Unique Approaches in the Literature of Terrorism

Equations, computers, and statistics are somewhat rare in the

literature of terrorism and therefore qualify as unique approaches. One such analysis is described by James P. Bennet and Thomas L. Saaty (1979). The authors used the Munich incident as their case study and developed a matrix composed of the actors which were involved in the incident (i.e., the terrorists, the German government, the Israeli government, the Arab world, and the hostages). Assuming that each of these actors possessed varying degrees of dominance in determining the outcome of the incident, the researchers developed a scale, ranging from one to nine to represent the degrees of dominance, and these numbers were transferred to the matrix. For example, although the terrorists were of equal importance as the German government in determining the outcome of the incident (denoted on the matrix as a one), they possessed considerably more dominance over the matter than did the hostages (denoted as an eight). The matrix for these actors only, therefore, would be as shown in Table III.

TABLE III
MATRIX OF VALUES FOR THREE ACTOR GROUPS

	Terrorists	German Government	Hostages
Terrorists	1	1	8
German Government		1	8
Hostages			1

The values from the matrix are substituted into a formula which is designed to calculate the probability of each of the possible outcomes. If the prediction power of this method proves to be high, it could be a valuable asset to counterterrorism strategists by better equipping them to deal with such incidents.

Somewhat similar to Bennet and Satty's proposed statistical equation is a model developed from research which was conducted under the supervision of the Central Intelligence Agency. The theory and model are based on the theory that frustration leads to aggression which was described in the previous section. Given four types of actor groups as listed in Table IV, and three sets of variables, the model is used to predict what form violence will take under given circumstances.

The specific kinds of groups involved will vary from country to country, and even from time to time within the same country. But in all cases, the extent to which the model's basic variables are perceived as prevailing among the four types of actor groups will provide the basis for predicting the extent and form of political violence.⁸

The four possible forms of violence are turmoil manifested in riots or demonstrations (pro-regime, mass-oriented), insurgency which includes terrorist acts or small-scale guerrilla operations (pro-regime, elite-oriented), conspiracy in the form of attempted coups (anti-regime, elite-oriented), and internal war including civil war or large-scale revolutions (anti-regime, mass-oriented). One problem with this model is that it involves the use of "expert judgements" of the terrorist groups which are being studied, and it is often difficult to obtain an "expert judgement" on any subject. However, the method of model

⁸Central Intelligence Agency, Profile of Violence: An Analytical Model, (Washington, 1976), p. 3.

development could be very important in the study of terrorism, as models enable researchers to examine representations of complex phenomenon, thereby ferreting out the complicating features.

TABLE IV
TYPES OF ACTOR GROUPS

		Actor Orientation	
		Mass	Elite
Attitude toward regime	Pro	Pro-regime Mass-oriented	Pro-regime Elite-oriented
	Anti	Anti-regime Mass-oriented	Anti-regime Elite-oriented

Source: Central Intelligence Agency, Profile of Violence: An Analytical Model, (Washington, 1976).

Daniel Georges-Abeyie has already been mentioned in connection with literature dealing with the definition of terrorism. His article, "Terrorism by the Bomb: A National Perspective for the Year 1975," coauthored by M. M. Zandi, represents an example of statistical analysis of terrorism that includes a geographical interpretation. Among the analyses which were performed for this study are the type of device in relation to the region in which the incident took place, the type of device in relation to the state in which the incident occurred, and the region in which the incident occurred by the motive behind the

incident. Some selected conclusions which the researchers reached are:

1. Psychic terror rather than killings or maimings was the most common result of the bombings.
2. . . . commercial enterprises were the foremost objects of attack.
3. The most highly urbanized and industrial states were also the states with the most bombing incidents.
4. The largest number of incidents occurred in cities with populations under 25,000.⁹

Although this research is a good example of the type of objective analysis which can be performed on the subject of terrorism, there are several limiting features of this analysis which should be mentioned. The data covers only bombings in the United States during 1975. In order to analyze the trends of bombings in the United States it would perhaps be better to analyze data from several different years. Also the analysis which was used to examine the region of incident by the motive included an unknown category of motive which contained over half of the total incidents. Despite these criticisms, however, the article does represent analysis that can and should be done on terrorism data.

The Central Intelligence Agency provides yearly summary reports on terrorism which are similar in form to Georges-Abeyie and Zandi's analysis. Rather than simply analyzing terrorism in the United States however, the Central Intelligence Agency analyzes the worldwide trends of terrorism. The conclusions gained from these analyses constitute the summary reports. By examining terrorism worldwide the Central

⁹Daniel Georges-Abeyie and M. M. Zandi, "Terrorism by the Bomb: A National Perspective for the Year 1975," Journal of Environmental Systems, Vol. 8, No. 4 (1978-79), p. 333.

Intelligence Agency reports necessarily lack the detail of the study by Georges-Abeyie and Zandi. One of the goals of these reports is to "set the scope and nature of international terrorism into historical perspective as well as to draw attention to those trends and developments that appear to be of particular importance."¹⁰ All figures in these reports are given in percentages or raw figures. Examples of the information which is included in these books include percentage of total incidents by geographic distribution (region) and number of incidents by category (technique).

Another unique approach to the study of terrorism is a computer system described by Brian Jenkins and D. A. Waterman (1979). The system is designed to help formalize ill-defined problems in the social sciences (such as terrorism). Within the system, data are represented as objects, and each object can have any number of attribute-value pairs. For example, if the object is a hypothetical bombing of Mr. Smith, the following attribute-value pairs, as listed in Table V, might be included. Other relevant data might be added to the system, such as information about the terrorist group which claimed responsibility, motive, number of injuries resulting from the incident, and others. The system not only aids the analyst in organizing information but also it is equipped with a deductive capability which is enacted through If-Then statements.

One of the goals for the future of this system is to develop computer programs that are capable of making predictions about future events. If this goal is realized it would certainly enhance those

¹⁰U. S. Department of State, (September 1983), p. 1.

working towards prevention of terrorism.

TABLE V
ATTRIBUTE-VALUE PAIRS FOR A HYPOTHETICAL
BOMBING INCIDENT

OBJECT: TERRORIST INCIDENT	
----------------------------	--

Attribute:	Value
Victim:	A. B. Smith
Date:	02/22/82
Time:	0200
Type:	Explosive Bombing
Location:	Chicago
Name of Incident:	Chicago Bombing 001

Rodger M. Govea (1980) argues in favor of teaching about political terrorism at the college level. In order for the students to benefit from the course, Govea lists eight commonly-held myths of terrorism which must be dispelled. The myths represent some of the common perceptions which the public holds as truths and are listed here so that readers of this work will not be hampered by such preconceived notions:

1. Political terrorism is the exclusive province of anti-governmental forces.
2. The purpose of political terrorism is the production of chaos.
3. Political terrorism is the province of madmen.
4. Political terrorism is criminal activity.

5. All insurgent violence is political terrorism.
6. Governments always oppose nongovernmental terrorism.
7. Terrorism is exclusively a problem relating to internal political conditions.
8. Political terrorism is a strategy of futility.¹¹

The greatest achievement of a class on political terrorism is that it would promote greater awareness and understanding of the subject, thereby aiding the general public's comprehension of terrorism.

Similar to the idea that terrorism is analogous to the theater is Phillip Karber's (1971) analogy between terrorism and a communications medium. Karber states that there are four basic components of terrorism, and each of these can be equated with one particular facet of a communications medium. The four components, along with their counterparts in communications are:

1. Terrorist: transmitter
2. Target group: intended recipient
3. Tactic (bombing, ambush, etc.): message
4. Reaction of target group: feedback¹²

This analogy is interesting because it provides an alternative concept of terrorism that can aid in gaining more insight into the subject.

One of the questions examined by Daniel Georges-Abeyie (1981) is: What is a proper response to terrorism? Although many argue that terrorism is directed mainly against liberal governments, Georges-Abeyie notes that, "in 1976, 75 percent of the nations (with terrorist

¹¹Rodger M. Govea, "Terrorism as a Political Science Offering," Teaching Political Science, Vol. 8, No. 1 (1980), p. 4.

¹²Phillip Karber, "Urban Terrorism: Baseline Data and A Conceptual Framework," Social Science Quarterly, No. 52 (1971), pp. 521-533.

organizations) were either authoritarian or totalitarian states."¹³ However, the authoritarian and totalitarian governments are better equipped than liberal governments to deal with terrorism, because stricter punishments can be enforced and repressive measures can be executed without public dissent. Liberal governments, on the other hand, are restricted in what they can do, because repressive measures are not condoned within liberal societies. It is therefore, more difficult for the liberal governments to control terrorism. The proper response to terrorism is dictated not so much by what the terrorists have done, but rather by the type of society they are operating within.

The examples of unique approaches to terrorism presented here are representative of the great variety of views held by the experts on terrorism. They incorporate varying ideologies and beliefs, they present innovative methods for studying terrorism, and they present differing theories on the bases of terrorism. Although separately, some may present narrow views of terrorism, collectively they provide insight into the nature of terrorism, and as such, provide background material for understanding and for undertaking research on terrorism.

J. Geographic Literature on Terrorism

Upon examining geographic literature which pertains to the subject of terrorism, little was found. Aside from the articles by Daniel Georges-Abeyie which have been mentioned several times, it is difficult to locate geographers who have studied the subject. There are, however, articles which deal indirectly with terrorism. Among these

¹³Daniel Georges-Abeyie (1981), p. 35.

related articles are those included in the realm of military geography. During World War I and, to a larger extent, during World War II, the importance of geographic information in military planning was discovered and pursued. In 1944, Colonel Sidman Poole wrote an article in which he stressed the importance of a strong background in both geographic and military training in order for military strategists to be better equipped for planning. However, this article deals with the importance of geographic information in a situation of conventional warfare and terrorism is considered to be a form of unconventional warfare.

More closely related to the subject of terrorism is an article by Robert W. McColl (1969) in which he examined revolutionary movements in the form of guerrilla warfare. The differences between guerrilla warfare and terrorism have already been outlined (Table II), but despite these differences, both are considered to unconventional warfare. McColl points out that,

virtually every aspect of the revolutionary process has undergone intense study. There remains one element, however, that has not received adequate attention. This is the geographic aspect in the evolution, as well as definition, of revolutionary movements.¹⁴

Although one might expect to find geographic literature on terrorism within the realm of political geography, a review of the literature proves that this is not true. As R. J. Johnston (1980) points out political geographers generally study consensus rather than conflict, and this perhaps explains the absence of the study of terrorism in political geography. Johnston developed a working definition of

¹⁴Robert W. McColl, "The Insurgent State: Territorial Bases of Revolution," Annals, Association of American Geographers, Vol. 59, No. 4 (1969), p. 614.

political geography as follows: "Political geography is the study of those economic and social conflicts which focus on the state and which have clear spatial and/or environmental components."¹⁵ Examining this definition of political geography it is apparent that this would include the study of terrorism, as it is a form of economic and social, as well as political, conflict. It is unfortunate that political geographers have chosen not to study terrorism, since they would be well equipped to handle the subject.

K. Summary

Although this literature review is by no means an exhaustive one, it does represent a good sample of the information which is available on terrorism. Other aspects of terrorism which were only examined to a limited degree and not included in this review include legal aspects, available strategic and tactical countermeasures, and case studies of specific groups. However, it should be mentioned that literature is available on these subjects.

In order to summarize this review, some of the more important themes will again be mentioned. Among these are literature which deals with the history of terrorism and the history of the study of terrorism. Also included was information on the definition of terrorism and suggested typologies of the use of terrorism. The role of the media is an important aspect in the study of terrorism as is the analysis of the trends of terrorism.

¹⁵R. J. Johnston, "Political Geography Without Politics," Progress in Human Geography, Vol. 4 (1980), p. 440.

Empirical analyses were far less common than other types of studies. The use of statistics in terrorism research is relatively rare. This gap in the literature is one which has been noted by other authors. As Richard Shultz said,

while an intense study has ensued this post-war proliferation of political terrorist incidents, the literature has been primarily descriptive, prescriptive and very emotive in form. Very few studies have approached the issue from a more analytical, theoretical, and objective position.¹⁶

The many views of terrorism which are represented in this review are evidence of the complexity of the subject. The subjective nature of the majority of the articles is because many of the authors are attempting to explain one or more aspects of terrorism. Although this explanation is necessary, those attempting to prevent terrorism need to have access to more information than those explanations provide. It is obvious that the study of terrorism has progressed admirably through the years and one might conclude that it will continue to progress as more innovative techniques for studying terrorism, such as the computer system, the model developed for the Central Intelligence Agency, and the typologies are developed and expanded. There is a need for more quantitative analyses and it is hoped that this study will help to fill that void.

¹⁶Shultz, p. 7.

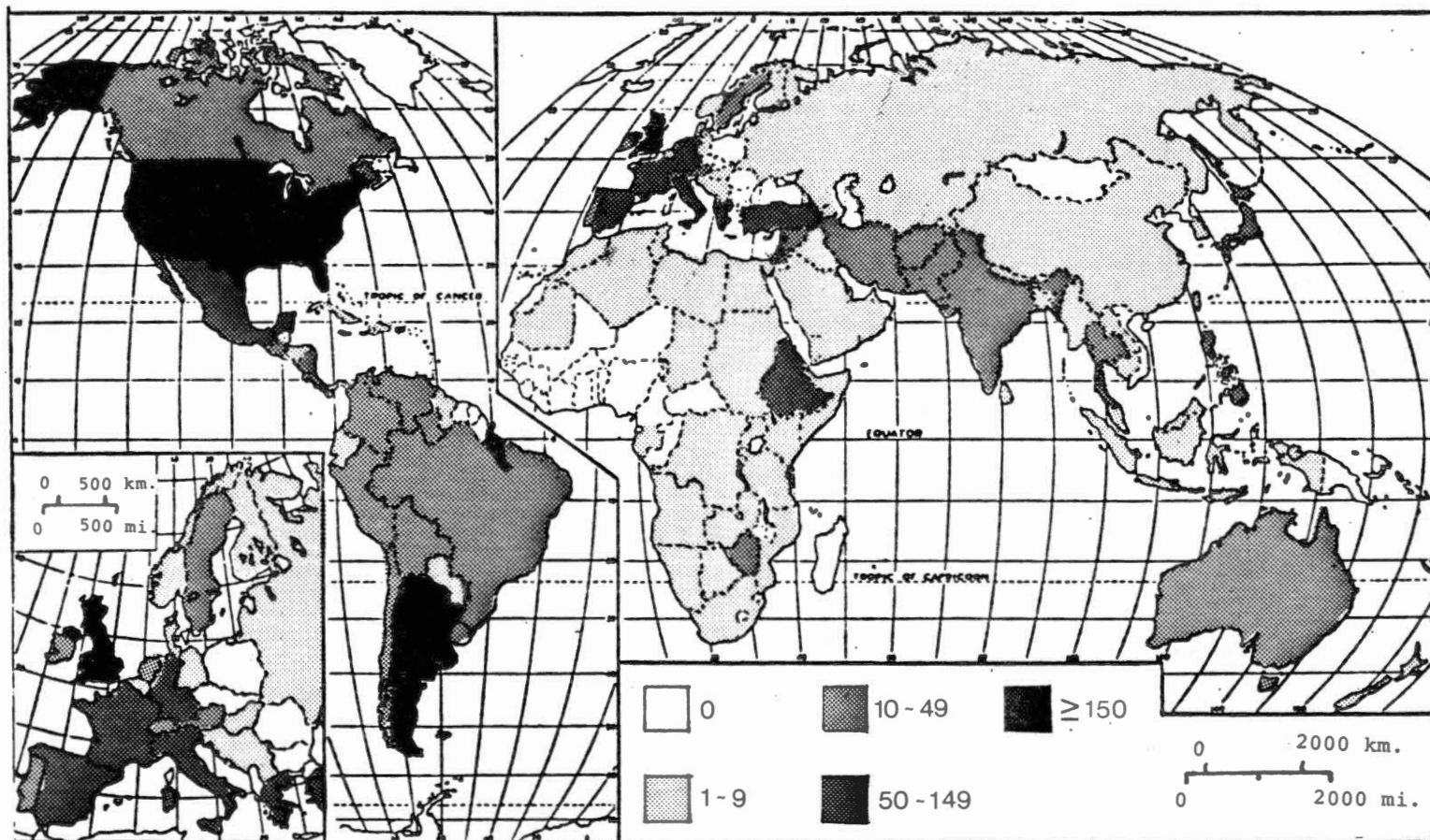
CHAPTER III

DATA ANALYSIS

This chapter is concerned with statistical analysis of the data, including details on data classification and portrayal, as well as the chi squared calculations. The first part of this chapter includes nine world maps. Eight of these maps portray the distribution of the eight terrorist techniques which are being evaluated in this research, the ninth is an overall picture of the total number of terrorist incidents worldwide. Each of these maps has been interpreted in an attempt to determine if any discernible spatial patterns exist, and the interpretations are described in the subsequent sections.

A. Total Number of Terrorist Incidents

Figure 1, which portrays the total number of terrorist incidents worldwide by country, reveals that much of the world has experienced terrorism to a certain degree. Only one large area of the world has been relatively untouched by terrorism--West Africa. More specifically, the countries in West Africa which have not experienced any terrorism are all within one region, Sub-Saharan Africa. The entire continent of Africa appears to have experienced very little terrorism since all countries except Ethiopia and Zimbabwe are included within one of the two lowest categories of numbers of incidents. The Soviet Union and Eastern Europe have also experienced little terrorism. The other major



Source: Edward Mickolus, Transnational Terrorism, 1980.

Figure 1. Total Number of Terrorist Incidents, 1969 - 1979

world regions have experienced terrorism in varying degrees, with Latin America, North America, Western Europe and the Middle East being the regions which are plagued the most by terrorism.

B. Incendiary Device or Arson

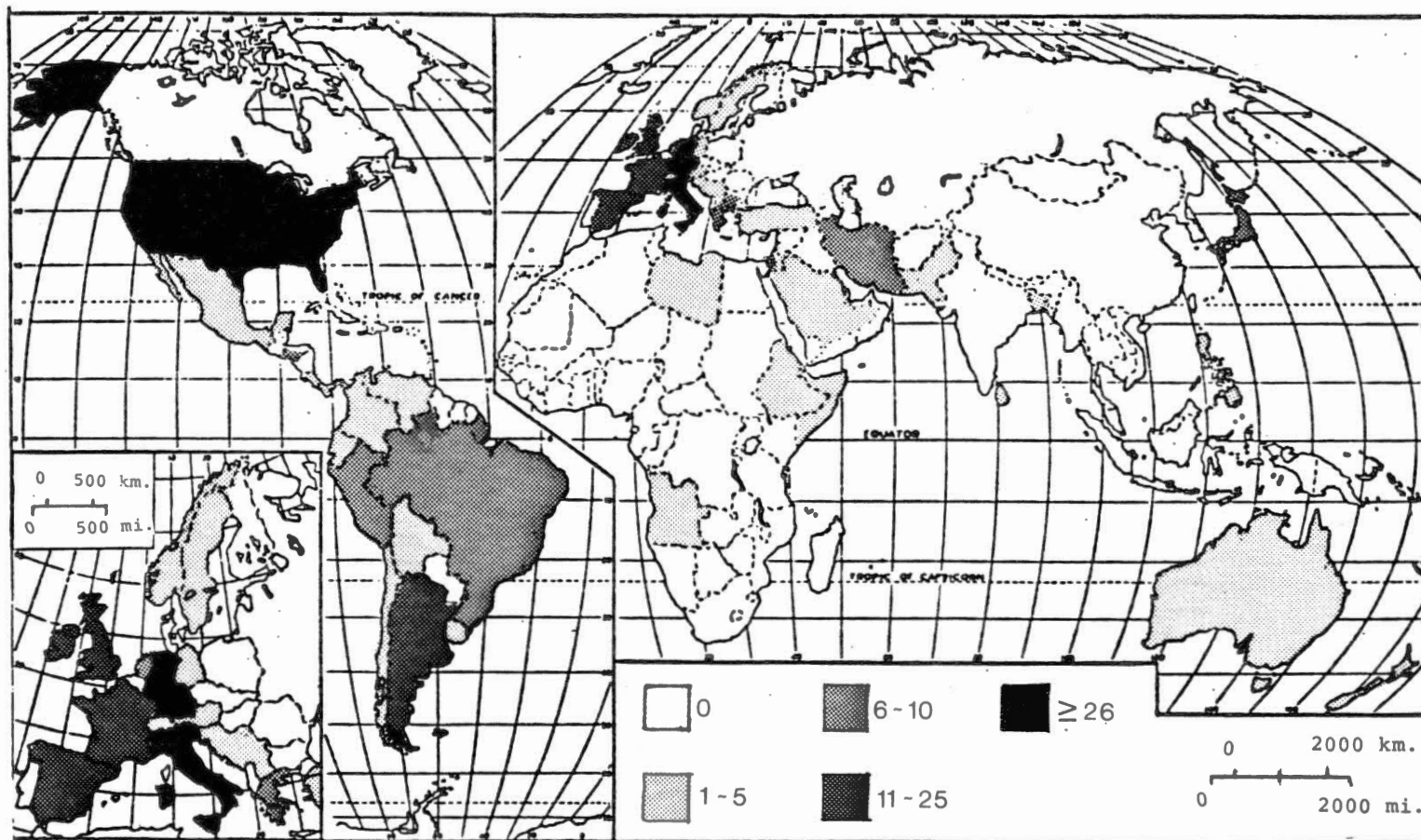
The areas which appear to have experienced the most attacks of an incendiary nature include the United States, Western Europe and Latin America according to Figure 2. Although the Middle East has experienced much terrorism overall, as pointed out in the preceding section, the incendiary device or arson has not been used widely in this area. The three countries which have had the highest number of incidents which involved this technique are the United States, West Germany, and Italy, all highly urbanized and highly industrialized countries.

C. Explosive Bombing

The widespread use of the explosive bomb is evident in Figure 3. Again, North America, Western Europe, and Latin America are the areas which have experienced the highest number of bombing incidents. There have also been a relatively large number of bombings in Asia and it should be noted that this technique is the only one which is so notable in Asia.

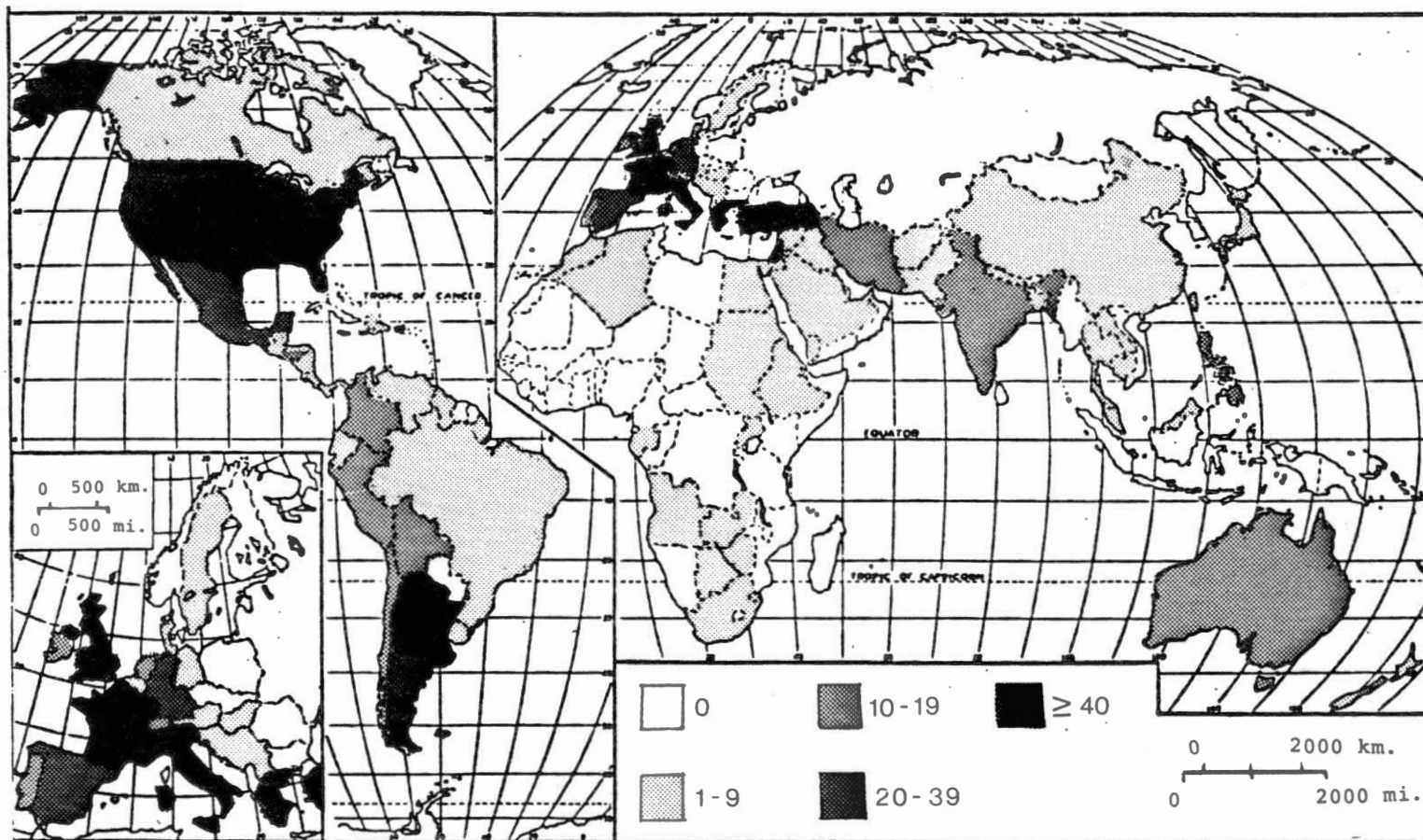
D. Hijacking

Because of the nature of hijacking, it can be assumed that the countries which have experienced the most hijackings are those in which there are more available targets. Therefore, the highest numbers of hijackings should be occurring in countries which are highly urbanized



Source: Mickolus, 1980.

Figure 2. Terrorist Use of Incendiary Device or Arson, 1969 - 1979



Source: Mickolus, 1980.

Figure 3. Terrorist Bombings, 1969 - 1979

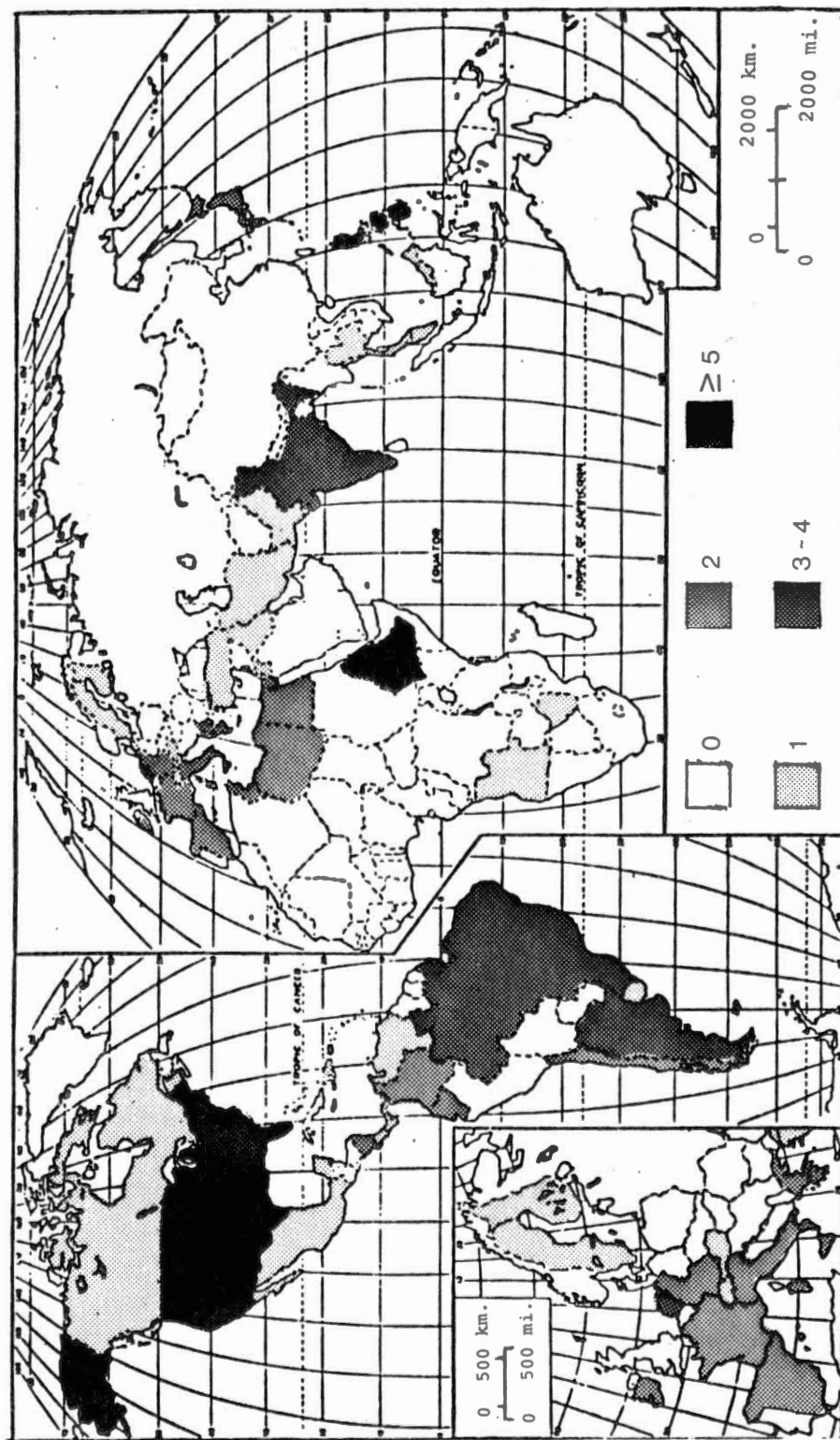
and industrialized. Figure 4, however, does not necessarily reflect this assumption. In fact, Figure 4 reveals that the highest number of incidents have occurred in the United States, Ethiopia, and the Philippines, and although the United States is highly urbanized, neither Ethiopia nor the Philippines are. Although these countries are similar with respect to categories of hijackings, however, a great discrepancy exists in the actual number of incidents occurring in each country. The United States experienced 48 hijackings, but only five took place in both Ethiopia and the Philippines.

E. Barricade and Hostage

Figure 5 portrays a pattern which differs greatly from those of the previous maps. Although all of the preceding maps showed that North America, Western Europe, and Latin America experienced the most incidents of each of the first three techniques, Figure 5 reveals that Latin America, particularly South America, has experienced relatively few barricade and hostage incidents. The United States and Western Europe, however, are again the leading areas for this technique. This difference in the distributions raises many questions pertaining to the conditions which might have resulted in this situation.

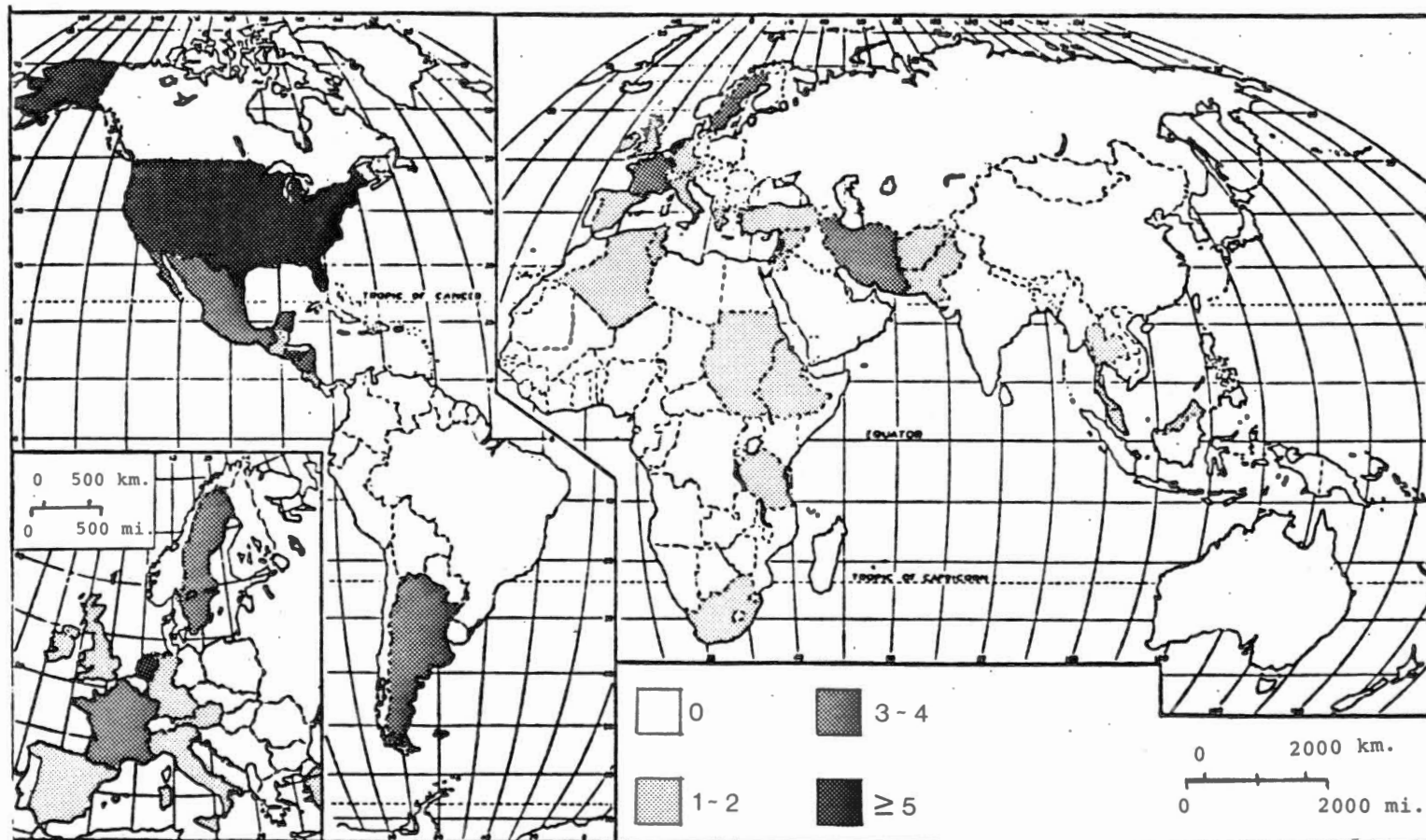
F. Assassination

The most obvious aspect of Figure 6 is not those areas which fall into the categories of highest number of assassination incidents, but rather those which are included within the lower categories. This would include Asia, the Soviet Union and Eastern Europe, as well as the Middle East with the exception of Lebanon and Iran. This pattern



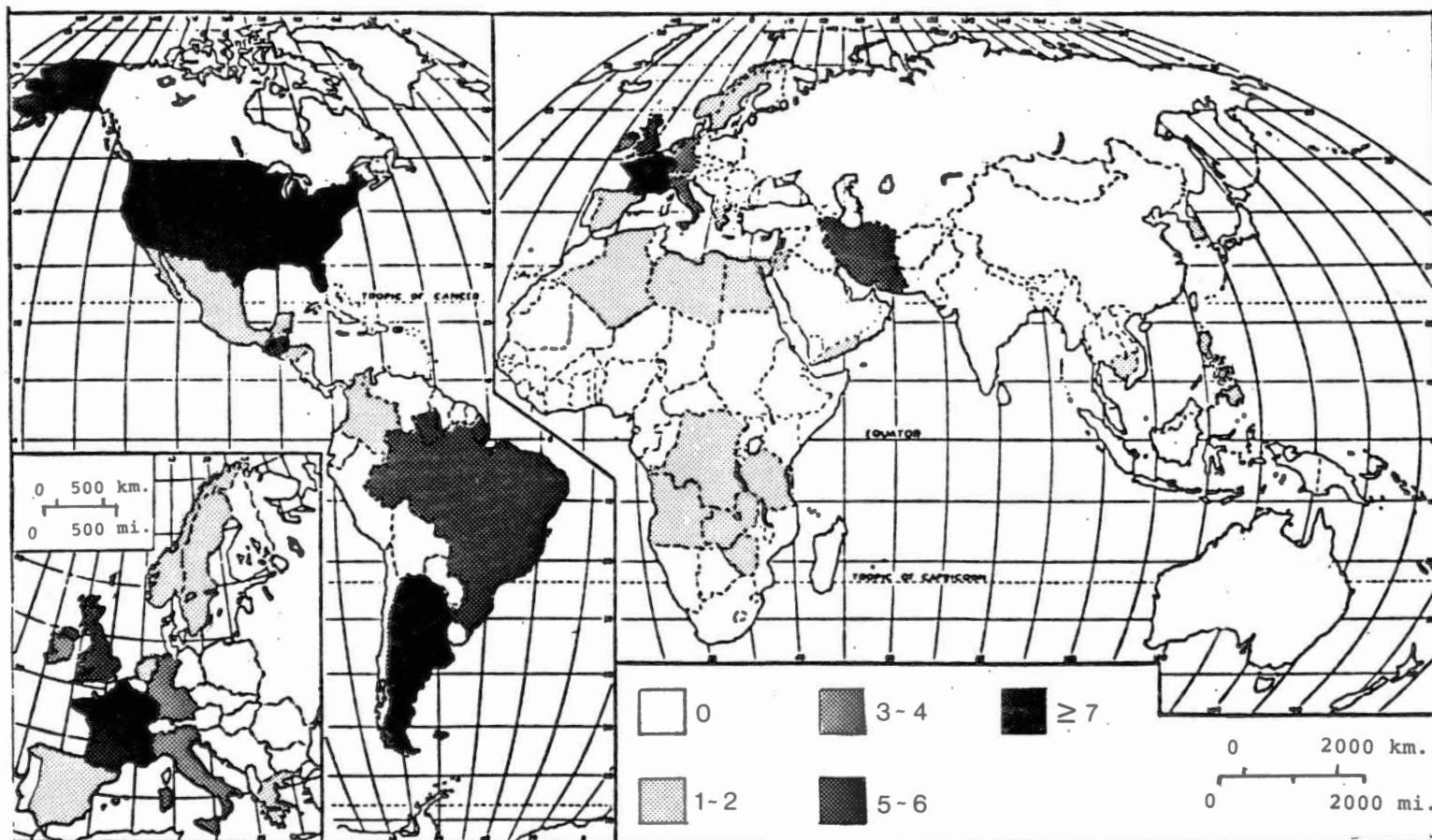
Source: Mickolus, 1980.

Figure 4. Terrorist Hijackings



Source: Mickolus, 1980.

Figure 5. Terrorist Barricade and Hostage Incidents, 1969 - 1979



Source: Mickolus, 1980.

Figure 6. Terrorist Assassinations, 1969 - 1979

is possibly a reflection of the stricter security measures in these areas and the inability of the terrorists to reach the possible targets.

G. Armed Assault or Ambush

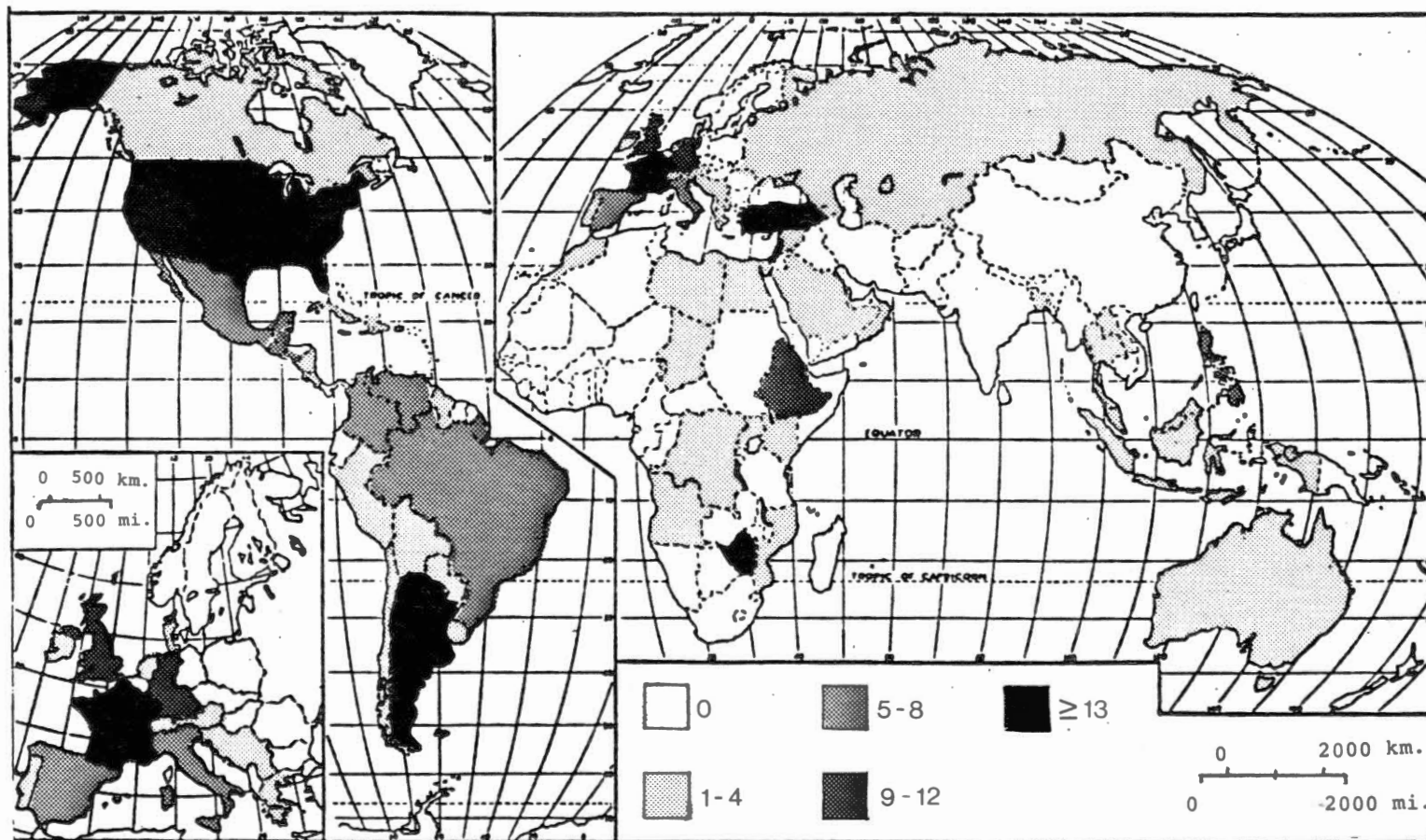
The conclusion reached in the interpretation of Figure 3, which portrays the number of explosive bombings, can be applied also to Figure 7. That conclusion is that the employment of these techniques is very widespread. No particularly distinguishable pattern of distribution occurs because the techniques have been used worldwide. Popularity of this technique may be attributed in part to the availability of firearms for terrorist groups.

H. Kidnapping

The technique of kidnapping has been used more often in Latin America than anywhere else in the world, as Figure 8 reveals. Even North America and Western Europe have experienced relatively few kidnappings compared to Latin America. This is particularly interesting because kidnapping is very similar to a barricade and hostage incident, but according to Figure 5 very few barricade and hostage incidents have taken place in Latin America.

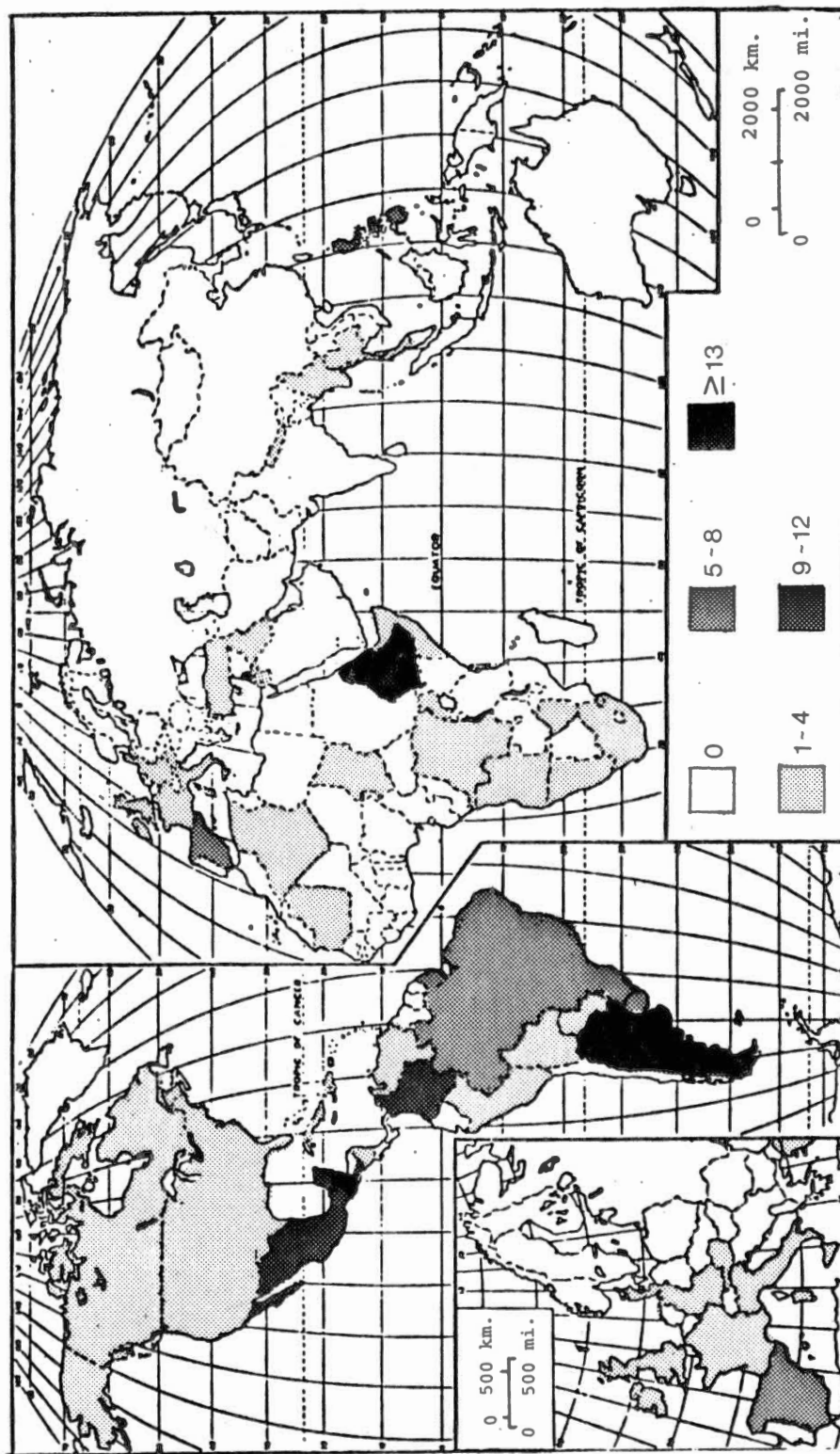
J. Other

Figure 9 reveals that Latin America is the region where more incidents of an "other" nature have taken place. This is partly due to the high number of robberies that have been carried out by terrorist groups in Latin America. Africa, on the other hand, has been almost completely untouched by any incidents of this nature.



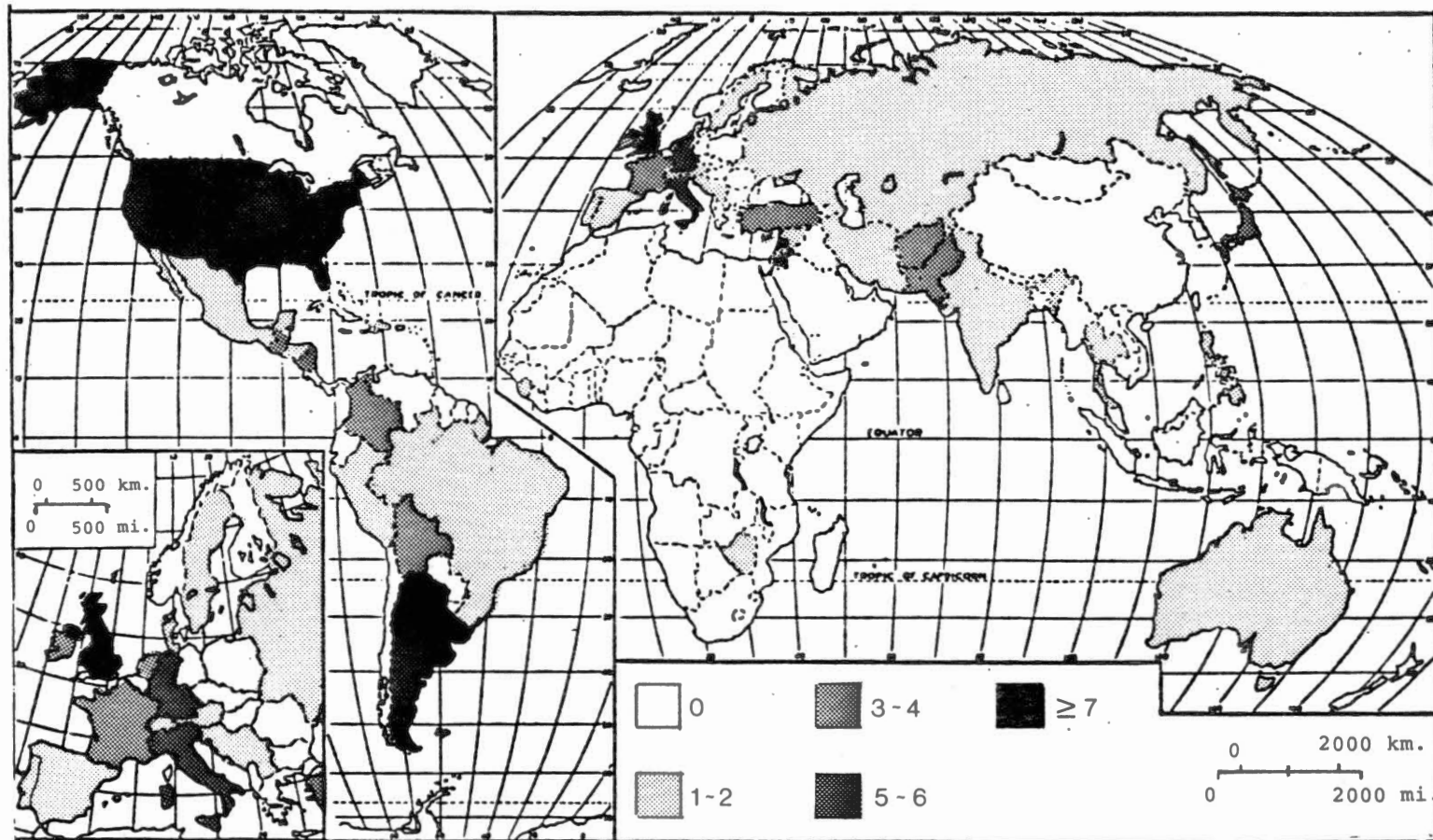
Source: Mickolus, 1980.

Figure 7. Terrorist Armed Assaults or Ambushes, 1969 - 1979



Source: Mickolus, 1980.

Figure 8. Terrorist Kidnappings



Source: Mickolus, 1980.

Figure 9. Terrorist Use of Other Techniques, 1969 - 1979

K. Summary of Map Interpretations

The various maps which have been assembled here portray many interesting patterns of terrorism. Although terrorism itself is virtually a worldwide phenomenon, the different techniques which are employed by terrorists are used with varying frequency in all areas. It appears that there are conditions which make the use of certain techniques preferred in some areas. These conditions are most likely made up of a complex set of interrelated factors which lead to the situations which have been portrayed and interpreted. The following calculations are designed to test a limited number of factors which might exert some influence on these conditions.

L. Data Analysis

As was mentioned in Chapter I, the data source for this analysis was Edward F. Mickolus' book, Transnational Terrorism. The raw data were collected and portrayed in a matrix which has been included in Appendix B. Because of the size of this matrix direct interpretation is difficult. Data, therefore, have been divided according to the categories organized for each of the five proposed levels of analysis. This facilitated the statistical analysis of the data.

Data were analyzed using the chi squared technique. Chi squared is a popular test of significance because there are few assumptions associated with it. Data may be of any level of measurement, but must be randomly selected. Chi squared, however, should be used only with samples that have relatively large expected frequencies. Most professional statisticians agree that if any cell has an expected

frequency less than five, the test should not be used because it may yield a value which is an overestimation and, therefore, not valid. In order to overcome this restriction it is possible to collapse some of the categories, however, some information will be lost in this process. Combining categories should be done only if necessary, and the decision to combine must be carefully considered. Very large frequencies are also undesirable as this may result in an inflated chi squared value.

The following sections consist of the chi squared calculations for each of the five levels of analysis, as well as the results of the tests. The level of significance has been set at .05 for all five analyses. Each level of analysis will include a null hypothesis and a research hypothesis and based on the information given above, the decision to accept or reject the null hypothesis will be made.

1. Level 1 - Regional

Calculation of chi squared for Level 1 yielded several cells with expected frequencies less than five. Although collapsing categories is a possibility, it did not appear to be a feasible solution in this situation. The four regional categories which contained expected frequencies less than five were USSR and Eastern Europe, Asia, Oceania, and Sub-Saharan Africa. Since these four regions have little in common and, therefore, could not logically be combined, it was instead decided that they be dropped from this analysis. The resulting chi squared matrix, therefore, includes only four regional categories: North America, Latin America, Western Europe, and Middle East and North Africa. Statistically, these four regions are also the areas where

the majority (88.9%) of terrorist activity takes place and, therefore, the analysis should still have merit despite the elimination of some of the data.

The null hypothesis (H_0) and research hypothesis (H_1) for Level 1 are:

H_0 : There is no difference in the types of terrorist techniques employed in the major world regions which experience the majority of terrorist attacks.

H_1 : There is a difference in the types of terrorist techniques employed in the major world regions which experience the majority of terrorist attacks.

The resulting chi squared value is 379.5 (Table VI) and, therefore, the null hypothesis can be rejected and the research hypothesis accepted.

A significant chi squared value does not reveal a strong relationship between two variables, only that a significant difference exists. To test the strength of the association between these variables the coefficient of contingency (C) was also calculated. Calculation of C for Level 1 resulted in a value of .38, which indicated that although a significant association does exist, it is not particularly strong.

Further examination of the chi squared matrix reveals which categories display the largest discrepancies between the observed and expected values. If these discrepancies can be matched with the patterns revealed by the maps, more in-depth interpretation is possible. For this level of analysis, the greatest discrepancies are in the categories of explosive bombing and kidnapping, particularly in Western Europe and Latin America. More specifically, bombings occurred more often in Western Europe than would be expected, whereas less kidnappings occurred. The opposite is true for Latin America. It was mentioned in Chapter I that more bombings occurred in Western Europe and more

kidnappings occurred in Latin America. Calculation of a significant chi squared value would appear to statistically support this pattern. There is also a large discrepancy between observed and expected frequencies in the category of armed assault or ambush. In this category Latin America and the Middle East and North Africa experienced more armed assaults and North America and Western Europe experienced less.

2. Level 2 - Degree of Urbanization

H_0 : There is no difference in the types of terrorist techniques employed in highly urbanized countries and countries which are not highly urbanized.

H_1 : There is a difference in the types of terrorist techniques employed in highly urbanized countries and countries which are not highly urbanized.

The calculated chi squared value for Level 2 is 95.5 (Table VII). The null hypothesis is again rejected and one can conclude, therefore, that there is a significant difference between the observed and expected values. The calculated C value is .20, revealing again that there is not a very strong association between these two variables.

The chi squared matrix reveals that the biggest discrepancy between the observed and expected frequencies occurs again in the category of explosive bombing. Countries which are highly urbanized have experienced more bombing incidents than would be expected, and countries which are more rural have experienced less.

A relatively large discrepancy was also found again in the category of kidnapping. In this instance, however, the figures reveal that more kidnappings occurred in rural countries, whereas less occurred in the highly urbanized countries.

TABLE VI
REGIONAL ANALYSIS

	Latin America	Middle East/ North Africa	North America	Western Europe	Total
Armed Assault or Ambush	67.7(E) (0) 83	52.5 86	36.4 18	89.2 59	246
Assassination	28.6 34	22.2 26	15.4 8	37.7 36	104
Barricade and Hostage	20.6 20	16.0 21	11.1 7	27.2 27	75
Explosive Bombing	313.3 241	242.9 241	168.6 188	413.0 468	1138
Hijacking	31.3 23	24.3 23	16.8 49	41.3 19	114
Incendiary Device or Arson	82.5 58	64.0 29	44.4 55	108.8 158	300
Kidnapping	47.6 121	36.9 28	25.6 4	62.7 20	173
Other	36.0 48	27.9 33	19.4 9	47.5 41	131
Total	628	487	338	828	2281

P = .05; 21 degrees of freedom

$$\chi^2 = 379.5$$

Source: Calculated by author

TABLE VII
URBANIZATION ANALYSIS

	High	Low	Total
Armed Assault or Ambush	229.8 220	31.1 41	261
Assassination	88.9 88	12.0 13	101
Barricade and Hostage	68.6 63	9.3 15	78
Explosive Bombing	1003.7 1045	136.2 95	1140
Hijacking	110.0 114	14.9 11	125
Incendiary Device or Arson	282.6 297	38.3 24	321
Kidnapping	177.8 141	24.1 61	202
Other	123.2 117	16.7 23	140
Total	2085	283	2368

p = .05; 7 degrees of freedom

$$\chi^2 = 95.5$$

Source: Calculated by author.

3. Level 3 - Economic (Gross National Product)

H_0 : There is no difference in the types of terrorist techniques employed among countries with varying levels of per capita gross national product.

H_1 : There is a difference in the types of terrorist techniques employed among countries with varying levels of per capita gross national product.

The calculated chi squared value for Level 3 is 208.5 (Table VIII).

Again, the null hypothesis is rejected and the research hypothesis accepted. The degree of association between gross national product and terrorist technique is also not very strong as shown by a value of .28 when C is calculated.

The greatest discrepancy between observed and expected values also follows the pattern set in the two previous levels of analysis, occurring in the category of explosive bombing. This discrepancy is more evident in countries with either medium or high level gross national products, however, than in countries with relatively low gross national products. It was expected that countries with low gross national products would experience more bombings than expected, however, the opposite was found to be true.

A discrepancy was also found in the kidnapping category, particularly in medium and high level countries. The countries with low and medium level gross national products experienced many more kidnappings whereas, the countries with high gross national products experienced less.

TABLE VIII
ECONOMIC ANALYSIS

	Low GNP	Medium GNP	High GNP	Total
Armed Assault or Ambush	24.1 44	148.2 165	121.6 85	294
Assassination	8.6 10	53.4 59	43.8 37	106
Barricade and Hostage	6.8 8	41.8 42	34.3 33	83
Explosive Bombing	97.6 66	600.0 529	492.3 595	1190
Hijacking	10.9 15	67.5 54	55.4 65	134
Incendiary Device or Arson	27.0 12	166.3 161	136.5 157	330
Kidnapping	17.8 38	109.9 166	90.2 14	218
Other	11.8 12	72.6 84	59.5 48	144
Total	205	1260	1034	2499

p = .05; 14 degrees of freedom

$$\chi^2 = 208.5$$

Source: Calculated by author.

4. Level 4 - Freedom of the Press

As in the regional level of analysis, the calculation of chi squared for Level 4 was hampered by small expected frequencies. In this situation it was decided that collapsing the categories would overcome the problem without creating additional complications. Therefore, instead of the original four categories of freedom of the press--complete, intermittent, internally absent, and internally and externally absent--the last two were combined into one category, internally and/or externally absent. The result was that all expected frequencies less than five were eliminated. The null and research hypotheses for this revised analysis, therefore, are:

H_0 : There is no difference in the types of terrorist techniques employed among countries with varying degrees of freedom of the press.

H_1 : There is a difference in the types of terrorist techniques employed among countries with varying degrees of freedom of the press.

Again, the result of the chi squared test allows one to reject the null hypothesis and accept the research hypothesis, with a calculated value of 119.7 (Table IX). C is equal to .22 for Level 4 and this indicates that the association between these two variables, though significant, is not strong.

In this situation, the largest discrepancies exist, not in the explosive bombing and kidnapping categories, but rather in the armed assault or ambush category and the incendiary device or arson category, particularly in countries with either complete or intermittent freedom of the press. There is also a discrepancy, though not as large, in the category of explosive bombing.

TABLE IX
FREEDOM OF THE PRESS ANALYSIS

	Complete	Intermittent	Internally and/or Externally Absent	Total
Armed Assault or Ambush	134.9 86	86.2 118	34.8 52	256
Assassination	50.5 39	32.3 44	13.0 13	96
Barricade and Hostage	35.8 35	22.9 21	9.2 12	68
Explosive Bombing	579.2 614	370.3 367	149.4 118	1099
Hijacking	66.4 85	42.4 25	17.1 16	126
Incendiary Device or Arson	163.9 206	104.8 67	42.2 38	311
Kidnapping	95.3 61	60.9 83	24.6 37	181
Other	71.6 72	45.8 41	18.4 23	136
Total	1198	766	309	2273

p = .05; 14 degrees of freedom

$$\chi^2 = 119.7$$

Source: Calculated by author.

5. Level 5 - Governmental Stability

H_0 : There is no difference in the types of terrorist techniques employed among countries with varying degrees of governmental stability.

H_1 : There is a difference in the types of terrorist techniques employed among countries with varying degrees of governmental stability.

The calculated chi squared value for Level 5 is 244.9 (Table X), therefore, the research hypothesis can be accepted. The degree of association between governmental stability and terrorist techniques is again not very strong as shown by a value of C equal to .31.

As in Levels 1, 2, and 3, the greatest discrepancies can be found in the categories of explosive bombing and kidnapping. These discrepancies, however, exist mainly in countries with highly stable governments and in countries with highly unstable governments and not in countries with generally or moderately stable governments. This pattern is repeated to a lesser degree in the armed assault or ambush category.

M. Summary of Results

The nine world maps at the beginning of this chapter portrayed many interesting patterns for interpretation. The maps, however, were designed to portray the global pattern of the use of the eight types of terrorist techniques. Although they also showed the regional aspects of this study, they did not portray the differences in the use of techniques for the other four levels of analysis, because they did not show which countries are included in each of the variable categories. To graphically portray these differences, divided proportional circles (pie charts) were constructed for each level of analysis. The pie charts are included in Appendix C.

TABLE X
GOVERNMENTAL STABILITY ANALYSIS

	Highly Stable	Generally Stable	Moderately Stable	Unstable	Total
Armed Assault or Ambush	80.9 43	67.3 73	24.9 35	62.7 85	236
Assassination	33.6 23	27.9 25	10.3 6	26.0 44	98
Barricade and Hostage	25.3 25	21.1 18	7.8 7	19.6 24	74
Explosive Bombing	380.2 470	316.5 309	117.4 111	294.7 219	1109
Hijacking	44.2 59	36.8 28	13.6 15	34.2 27	129
Incendiary Device or Arson	109.0 112	90.7 126	33.6 21	84.5 59	318
Kidnapping	67.2 15	55.9 38	20.7 37	52.0 106	196
Other	46.2 40	38.5 38	14.2 11	35.8 46	135
Total	787	655	243	610	2295

p = .05; 21 degrees of freedom

$$\chi^2 = 244.9$$

Source: Calculated by author.

To portray the complete picture of findings, Table XI includes all variables which were analyzed. An "X" in a cell denotes that more of that particular technique occurred in the category than would be expected. Obviously, some of the cells will have a very small difference between observed and expected frequencies. Therefore, if the difference is less than five, the cell will contain an "X" which is enclosed in parentheses.

Examination of Table XI reveals that a noticeable pattern does exist. There appears to be a link between certain techniques which are found to occur more often than would be expected in given situations. The techniques of armed assault or ambush, assassination, barricade and hostage, kidnapping and other can be grouped into one pattern whereas, explosive bombing, hijacking, and incendiary device or arson can be grouped into another. The first group occurs more often in Latin America, the Middle East and North Africa, countries which are not highly urbanized, countries with low and medium level gross national products, countries with intermittent and internally and/or externally absent freedom of the press, and countries with moderately stable to unstable governments. The second group occurs more often in North America and Western Europe, countries which are highly urbanized, countries with high level gross national products, countries with complete freedom of the press, and countries with highly stable governments. Although these patterns do not represent exact laws to be followed, they do offer further areas for discussion, particularly on why the conditions described above nurture the use of certain techniques more than others.

TABLE XI
SUMMARY TABLE

	Region				Urbaniza- tion		GNP			Freedom of the Press			Governmental Stability			
	Latin America	Middle East/ North Africa	North America	Western Europe	High	Low	High GNP	Medium GNP	Low GNP	Complete	Intermittent	Internally/ Externally Absent	Highly Stable	Generally Stable	Moderately Stable	Unstable
Armed Ass Ambush	X	X				X		X	X		X	X		X	X	
Assassination	X	(X)				(X)		X	(X)		X					X
Barricade and Hostage		(X)				X		(X)	(X)			(X)				(X)
Explosive Bombing			X	X	X		X			X			X			
Hijacking			X		(X)		X		(X)	X			X		(X)	
Incendiary Device/Arson			X	X	X		X			X			(X)	X		
Kidnapping	X					X		X	X		X	X			X	X
Other	X	X				X		X	(X)	(X)		(X)				X

X: Observed frequency greater than expected frequency

(X): Observed frequency greater than expected frequency, the difference between the two is less than five

The chi squared analyses in this chapter resulted in significant findings in all five levels of analysis. Calculation of C, however, revealed only weak relationships between the variables. The strongest relationship was found in the regional level of analysis. These results will be combined with the patterns of distributions on the maps in an attempt to formulate some general conclusions based on these results.

CHAPTER IV

INTERPRETATION OF STATISTICAL RESULTS

The outcomes of the chi squared analyses in Chapter III yielded significant results for all five levels of analysis. Although these results have been explained, a subjective interpretation of them is included in this chapter. The goal of this interpretation is not only explanation of possible reasons behind the results, but also explanation of the consequences of the findings. In order to simplify understanding of the interpretations which are presented, three subsections are outlined: 1) an interpretation for each level of analysis, 2) a general summary of the above, and 3) an explanation of the possible consequences of the results. Chapter IV will conclude with suggestions for future research.

A. Level 1 - Regional

The most significant finding of the regional level of analysis is the prevalence of terrorist kidnappings in Latin America. This pattern was reflected in both Figure 8 and Table VI. The general conclusion, therefore, is that terrorists operating in Latin America employ the technique of kidnapping more often than terrorists in other regions and more often than would be expected by chance. The underlying reason for the popularity of this technique may simply be that it has been found to be very effective in this region. Countries of Latin America

are, in large part, areas which have very wide class distinctions--a small but powerful upper class, a large poor lower class, and a relatively small but emerging middle class. Added to this socioeconomic situation is a large number of foreign owned corporations which have bases of operations in many Latin American countries (e.g. IBM, Coca Cola, Ford, and Mercedes Benz). Corporate executives of these companies are frequently targets of kidnappings. The demanded ransoms are high--frequently in excess of \$100,000 and, in most cases, the ransom is paid by the corporation. It has, therefore, proven to be profitable to the terrorists to engage in such activity. Kidnapping of government officials, on the other hand, is not particularly profitable because few governments permit the payment of ransom to terrorists.

Another significant finding in Level 1 concerns the prevalence of the use of bombs and incendiary devices in Western Europe. Figure 3 portrayed the widespread use of explosive bombs. Use of incendiary devices or arson, as shown in Figure 2, is not as widespread, however, if these two maps are compared it appears that those countries which have experienced the most explosive bombings also have experienced attacks in which incendiary devices were used. According to the chi squared analysis for Level 1 many more bombings have occurred in Western Europe than would be expected. The numerous bombings carried out by the Irish Republican Army in Great Britain, a very active group which usually resorts to bombings, contributes to this finding. It is likely that the highly urbanized and industrialized nature of Western Europe is a reason for the popularity of the bomb in this region. This will be examined more fully in the next section.

Less significant than the results discussed above is the finding of the chi squared analysis for armed assaults or ambushes. More specifically, more armed assaults than would be expected took place in Latin America and the Middle East and North Africa, and less took place in Western Europe and North America than would be expected. It is difficult to rationalize this finding on purely regional differences or similarities and, therefore, it must be assumed that the reasons for this finding lie in other conditions.

B. Level 2 - Degree of Urbanization

As was to be expected, more hijackings occurred in highly urbanized countries. The most obvious reason for this is the availability of targets--more airports and more airline travel. There were also more explosive bombings in urbanized countries, a fact also supported by the prevalence of bombings in Western Europe, a highly urbanized region. Similarly, this is most likely a function of availability of targets. Rarely do bombings occur in rural villages because the impact, both physical and psychological, is greater in an urbanized area.

More interesting, perhaps, is the finding that more kidnappings occurred in rural countries than would be expected. This is possibly because a kidnapping is more easily accomplished in a relatively isolated area, easier for the terrorists to "grab" a victim in an area where there are less people to hinder the operation. On the other hand, it is also possible that the relatively large number of kidnappings occur in rural countries not because of the ease with which they can be accomplished, but rather because other options are not feasible to the terrorists. For example, bombings, arson, hijackings, and

barricade and hostage incidents are more often associated with urban targets and, therefore, may not be viable options for terrorists operating in countries which are not highly urbanized.

C. Level 3 - Economic (Gross National Product)

The technique of kidnapping figured prominently in the differences between the observed and expected frequencies for Level 3, as in the two previous levels of analysis. More kidnappings occurred in countries with low and medium level gross national products than would be expected, and less occurred in countries with high level gross national products. The economic angle in kidnappings has already been mentioned in Section A. Terrorists operating in countries which are characterized by lower gross national products may find difficulty in obtaining financial backing for their activities. Therefore, they may be forced to resort to obtaining their own funding through the profitable kidnapping technique.

Use of armed assaults or ambushes was also found to be significantly higher than would be expected in countries with low and medium level gross national products. It is possible that this is a popular technique in these countries because of the relative ease of terrorist groups in obtaining firearms. It appears that a pattern exists between kidnappings and armed assaults, a pattern which was also revealed in Table XI.

D. Level 4 - Freedom of the Press

Countries in which there is virtually no freedom of the press experienced significantly more armed assaults or ambushes than would be

expected, and to a lesser degree experienced more kidnappings. It is likely that there are underlying conditions which contribute to this situation. Freedom of the press is a variable which partially reflects the political freedom of a country. This, combined with the economic variable and the urbanization variable, may yield information which could be used to interpret this pattern.

Role of the media must also be considered when examining the possible interpretations for this level of analysis. Assassinations, events which are sure to get widespread publicity, occurred more often in countries with intermittent freedom of the press. Because of the fluctuating nature of what the media might be allowed to publicize in these countries, it is possible that terrorists operating within them would choose techniques which are sure to get them publicity. Indeed, in both the intermittent and internally and/or externally absent categories of Table IX it was found that less explosive bombings and incendiary devices were used than would be expected. Both of these techniques were more common in countries with complete freedom of the press, where even a relatively small-scale bombing incident which caused little or no damage would be reported to the public.

E. Level 5 - Governmental Stability

It appears from examining the data that governments which are either moderately stable or highly unstable are more often subjected to kidnappings. This is likely to be caused, in part, by the inability of these governments to effectively handle kidnap situations or to protect possible kidnap victims because of the unstable nature of the government. More assassinations also occurred in countries with highly

unstable governments than would be expected. This might be a function of the situation mentioned above--the government's inability to protect possible targets--or it is equally likely that the prevalence of kidnapping and assassinations in these countries has contributed to the instability of the government. The most logical conclusion is that both of these forces are at work simultaneously, fostering conditions which will continue the pattern in a cyclical nature. This same idea might be applied to the technique of armed assault or ambush, which occurred more often than would be expected in countries with moderately stable and highly unstable governments.

F. Summary of Interpretations

The general conclusions pertaining to specific situations which were presented in the preceding sections may be applied to situations in reality. For example, if it is known that more kidnappings occur in Latin America, specific policies may be formulated which are designed to prevent such occurrences or more efficiently handle them when they do occur. The situations which appear to contribute to the use of certain techniques have been clearly identified, possible reasons for these situations have been discussed, and it is hoped that an understanding of these patterns can contribute to a greater understanding of the phenomenon of terrorism as a whole.

G. Consequences of Results

Although clear understanding of the patterns of terrorism is an admirable goal, the interpretation of the results of this study can and should be taken one step further, to a discussion of possible

applications of the findings. This section, therefore, is devoted to a postulation of possible applications of the results. Applications presented here vary widely in scope including specific recommendations as well as general suggestions.

An example of the suggestions has already been mentioned in Section F--that if it is known that more kidnappings occur in Latin America, specific policies to deal with these occurrences should be formulated. This suggestion can be narrowed to apply more specifically to Latin American rural countries with low and medium level gross national products, intermittent or internally and/or externally absent freedom of the press with relatively unstable governments. However, the problem is more widespread, and although these countries would appear to be in the most danger of experiencing kidnappings, all countries which fall into at least one of these categories should be aware of the possibilities. One consequence of the high number of kidnappings of corporate executives in such countries is the development and increase in the sale of kidnap insurance. Many corporate executives, particularly in high-risk areas, are insured against such possible occurrences. Although this protects the company from financial losses due to the payment of ransom, it has a positive effect on the number of kidnappings. Easy payment of ransom makes kidnapping more profitable to the terrorists. It would perhaps be better to increase security measures around probable targets and institute non-payment of ransom policies, thus making the technique less attractive.

Hijackings provide another technique by which a better understanding of the phenomenon would help in its combattance, especially in the United States. The United States, by far, has been plagued

the most by hijackings. However, most of these occurred before the formulation of the stricter security measures in use now in all airports across the country. After the execution of these measures, the number of hijackings in the United States dropped dramatically. Recently, there has been a resurgence of hijackings in which the perpetrator uses a glass container filled with a flammable liquid which can be carried through metal detectors without detection. Understanding that this situation is occurring should bring about new policies and security measures that are designed to combat this new threat.

Assassinations, rare occurrences compared to the use of other techniques, can probably best be combatted by tighter security, making it more difficult for the terrorist to reach possible targets. The same methods might be used to prevent armed assaults and ambushes. Another method which might prove useful in this situation would be stricter controls on firearms and ammunition--both legally and illegally obtained. The ease with which a terrorist group is able to arm itself has contributed greatly to the number of incidents involving weapons ranging from pistols to heat-seeking missiles.

It appears that there is little hope for controlling the use of bombs or incendiary devices. These techniques, as already mentioned, are associated with terrorist groups of all sizes and levels of development. They represent the simplest weapons available to terrorists, and yet, are capable of great destruction. One possible, yet inefficient, solution to this might be to monitor more closely the activities of all terrorist groups. This, however, is not a particularly acceptable solution in liberal societies.

Use of other techniques is just as difficult to control as the use of bombs because of the varied nature of the attacks. Techniques such as sabotage and chemical poisonings are so unexpected that little can be done to prevent them. If policy makers, however, are aware of the possibilities, measures can be designed to handle the situations when they do occur.

The applications which have been presented here represent only a small number of possible responses to terrorism. However, based on information concerning past attitudes towards terrorism it is obvious that other problems must be overcome in order for such responses to be put into action. This is, in part, due to the fact that policy makers disagree about the consequences of terrorism. There is no world-wide council which is empowered with the right to make and execute regulations on terrorism. Many governments today openly or covertly support terrorism and the rest resort to the same tactics and techniques in the name of counterterrorism.

Because of this situation, it is perhaps more important to attempt to understand this complex phenomenon than to attempt to control it through imperfectly formed measures. Thus far, little has been mentioned in this report concerning the nature of terrorism and its place within the cultural framework of society. The fact is that although the form of terrorism today is different from past forms (terrorists of the past did not have access to the weapons such as heat seeking missiles which are available today) the use of terror for political purposes was used throughout history and will continue to be used in the future. There is no way to eradicate terrorism.

Understanding this idea involves a return to the definition of terrorism. Through objective application of this definition it can be shown that most incidents which are not popularly considered terroristic are, in reality, acts of terrorism. Because the word, terrorism, carries a negative connotation, rarely do governments or individuals apply it to their own actions. Instead, terrorism is what the "other" people do. But, if we are to objectively study terrorism, the label must be attached to any act which fits the criteria of the definition.

Objective application of the definition of terrorism used in this analysis reveals that in August, 1945 the United States government committed an act of terrorism. This particular incident, however, has never been considered terroristic, at least not from an American perspective. The incident is the bombing of the Japanese cities of Hiroshima and Nagasaki during World War II. According to the definition, terrorism is the threat or use of violence for political purposes (this incident involved both as the Japanese were threatened by President Truman of the possibility in July before the bombs were dropped in August), whether acting for or in opposition to established governmental authority (again, both as the action was for the established authority of the Allied countries and against the established authority of the Japanese government), when such actions are intended to shock, stun, or intimidate a target group wider than the immediate victims (the target group was the Japanese government, the victims were those killed in the incident, and the goal of the incident was indeed intimidation). The incident was successful in that it is generally agreed that it served to bring an early end to the war. However, when viewed from a biased viewpoint, the incident is believed to have

been an unfortunate, though necessary, act of war. Numerous other incidents which involved the use of terrorism but were not labelled as such can be found in the past, including the activities of resistance movements and underground organizations as well as double agents and spies.

The purpose of this discussion is to prove that, through objective application of the definition, terrorism is not just "what the other people do." Anyone who engages in an action which fits the criteria of the definition is using terrorism. No amount of justification can change this fact. Viewed from this perspective it logically follows that not only can terrorism not be eradicated, but also perhaps it should not be eradicated. The most important aspect of this idea is that governments and individuals must begin to admit that they themselves are indeed doing the same as those they are in opposition to. This admission should promote greater insight into their own actions and perhaps also nurture a new respect for those that they oppose.

This discussion has not been included to overshadow the results or the interpretations of this analysis. Rather, it was included to give a more realistic view of terrorism. Counterterrorist measures may succeed in part in controlling terrorism and research can certainly contribute to our knowledge concerning such measures, but it is more important that people begin to understand what terrorism actually is. The following section describes suggestions for future research, both on the ideas presented here and on related ideas.

H. Suggestions for Future Research

One of the most important things to learn for anyone who attempts research on terrorism, or virtually any subject, is the importance of

reading and understanding what others have done before them. Statistical analysis is not always valuable by itself. The research should include logical interpretations based not only on the results of the calculations but also on related theories, ideas, and information. It is hoped that the conclusions associated with this research are good examples of such interpretation.

It has already been mentioned that there is a need for more objective analyses of terrorism. Difficulties associated with such analysis were listed, and suggestions for overcoming the difficulties were provided. Hopefully, this research has shown that the difficulties can be overcome and that such analysis is not only possible, but also valuable. With this in mind, suggestions for further research on this and related topics are presented here.

The role of the media in terrorism is a fascinating subject which should be researched more completely. Although it might be a difficult subject to analyze statistically, related studies which were mentioned in Chapter II revealed that it is possible to develop analogies, and through the method of comparison, examine the subject from different perspectives. Statistical analysis might be possible if a method were devised to measure the effect of media-supplied publicity on terrorist incidents.

Research which is similar in form to this analysis, only including more variables, would also be possible. Other variables which might be used include social and cultural variables, as well as more political variables. Another possible subject for research might be to study the effect which existing laws, statutes, and regulations have on terrorism. Research on the public's attitudes toward terrorism would be

valuable in analyzing the psychological effects of terrorism. Research on a smaller scale, approached perhaps from a regional or national level, would enhance understanding and increase knowledge of particular groups.

It should be stated again that the statistical analysis of terrorism has not often been attempted. This should not discourage interested persons from undertaking research, rather it should promote the need for more information. Further research need not be on something which no one has considered before, although the pioneers are important in the study of any subject. The goal of research might simply be to attempt to support past findings. Whatever form it takes, research on terrorism is needed because before one can objectively deal with the situation it must be understood.

J. Conclusions

This particular research proved to be an exciting and challenging undertaking. Although prediction is virtually impossible when studying terrorism, patterns and trends were analyzed. Close examination of these patterns yielded logical assumptions about the nature of terrorism and these assumptions resulted in generalizations which were applied to reality.

Possibly the most exciting part of conducting and writing this research, however, was the suggestions for practical application of the findings. Based on the calculations of the data and prior knowledge of the subject, viable options for policy makers were offered in order to attempt to control terrorism. But as was already pointed out, controlling terrorism may not be the proper solution in all cases. To

understand terrorism in the contemporary world a researcher must be able to overcome the negative connotation associated with the word. Terrorism is not always bad, often useful, and sometimes necessary. This perspective should promote not only understanding and awareness, but also objectivity. Governments have been and will continue trying to control the terrorism of the "other" people while engaging in such acts themselves. But, the solutions and alternatives they employ must be examined carefully and weighed in relation to the associated consequences, both short range and long range and, when they are considered, an objective viewpoint such as described above should be assumed. It is hoped that this research has, in some way, contributed to the knowledge necessary for such understanding of the reality of terrorism in the contemporary world.

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APPENDIX A

REGIONAL DIVISIONS

Asia

Bangladesh	Kampuchea	Philippines
Bhutan	Laos	Singapore
Burma	Malaysia	South Korea
China	Mongolia	Sri Lanka
Hong Kong	Nepal	Taiwan
India	North Korea	Thailand
Indonesia	Pakistan	Vietnam
Japan		

Latin America

Argentina	Dominican Rep.	Nicaragua
Bahamas	Ecuador	Panama
Barbados	El Salvador	Paraguay
Bolivia	Guatemala	Puerto Rico
Brazil	Guyana	Peru
Costa Rica	Haiti	Trinidad & Tobago
Chile	Honduras	Uruguay
Columbia	Jamaica	Venezuela
Cuba	Mexico	

Middle East and North Africa

Afghanistan	Israel	Saudi Arabia
Algeria	Jordan	Syria
Bahrain	Kuwait	Tunisia
Cyprus	Lebanon	Turkey
Egypt	Libya	United Arab Emirates
Iran	Morocco	Yemen (Aden)
Iraq	Oman	Yemen (Sana)

North America

Canada	United States
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A (CONTINUED)

 Oceania

Australia	Micronesia	New Zealand
Melanesia	New Guinea	Polynesia

Sub-Saharan Africa

Angola	Ivory Coast	Sierra Leone
Benin	Kenya	Somalia
Botswana	Lesotho	South Africa
Burundi	Liberia	Sudan
Cameroon	Malagasy Rep.	Swaziland
Central Africa	Malawi	Tanzania
Chad	Mali	Togo
Congo	Mauritania	Uganda
Djibouti	Mozambique	Upper Volta
Ethiopia	Namibia	Zaire
Gabon	Niger	Zambia
Ghana	Nigeria	Zimbabwe
Guinea	Senegal	

USSR and Eastern Europe

Albania	Hungary	USSR
Bulgaria	Poland	Yugoslavia
Czechoslovakia		

Western Europe

Austria	Iceland	Republic of Ireland
Belgium	Italy	Spain
Denmark	Luxembourg	Sweden
East Germany	Netherlands	Switzerland
Finland	Norway	United Kingdom
France	Portugal	West Germany
Greece		

APPENDIX B
RAW DATA MATRIX

	Other	Incendiary Device or Arson	Assassination	Hijacking	Armed Assault or Ambush	Bombing	Barricade and Hostage	Kidnapping	Total
Afghanistan	3	0	0	0	0	7	1	0	11
Albania	0	0	0	0	0	0	0	0	0
Algeria	0	0	1	0	0	1	1	1	4
Angola	0	1	1	1	1	1	0	4	9
Argentina	12	12	18	4	18	61	3	48	176
Australia	1	2	0	0	1	11	0	0	15
Austria	1	4	0	1	2	3	2	1	14
Bahamas	0	0	0	0	0	0	0	0	0
Bahrain	0	0	1	0	0	1	0	0	2
Bangladesh	0	2	0	0	1	2	2	0	7
Barbados	0	0	0	0	0	5	0	0	5
Belgium	0	0	0	0	0	5	0	0	5
Benin	0	0	0	0	0	0	0	0	0
Bhutan	0	0	0	0	0	0	0	0	0
Bolivia	4	5	0	0	3	12	0	3	27
Botswana	0	0	0	0	0	2	0	0	2
Brazil	2	7	5	3	5	4	0	5	31

B (CONTINUED)

	Other	Incendary Device or Arson	Assassination	Hijacking	Armed Assault or Ambush	Bombing	Barricade and Hostage	Kidnaping	Total
Bulgaria	0	0	0	0	0	0	0	0	0
Burma	0	0	0	0	0	0	0	2	2
Burundi	0	0	0	0	0	0	0	0	0
Cameroon	0	0	0	0	0	0	0	0	0
Canada	0	0	0	1	1	6	0	2	10
Central Africa	0	0	0	0	0	0	0	0	0
Chad	0	0	0	0	2	0	0	1	3
Chile	0	2	0	2	2	12	1	1	18
China	0	0	0	0	0	1	0	0	1
Columbia	3	4	2	2	8	15	0	11	45
Congo	0	0	0	0	0	0	0	0	0
Costa Rica	0	1	0	1	4	6	1	0	13
Cuba	0	0	0	0	2	0	0	1	3
Cyprus	3	1	4	0	1	3	0	1	13
Czechoslovakia	0	0	0	0	0	0	0	0	0
Denmark	1	0	0	0	1	4	0	1	7
Djibouti	0	0	0	0	1	1	1	1	4
Dominican Rep.	1	0	0	1	1	2	1	1	7
Ecuador	0	2	0	2	0	5	0	0	9
Egypt	0	0	2	2	2	2	0	0	8
El Salvador	0	6	0	0	7	16	7	12	48
Ethiopia	0	2	0	5	9	5	1	20	42

B (CONTINUED)

	Other	Incendiary Device or Arson	Assassination	Hijacking	Armed Assault or Ambush	Bombing	Barricade and Hostage	Kidnapping	Total
Finland	0	0	0	1	0	0	0	0	1
France	4	22	13	2	18	71	4	3	137
Gabon	0	0	0	0	0	1	0	0	1
Germany (East)	0	1	0	0	0	2	0	0	3
Germany (West)	6	30	3	2	9	37	2	2	91
Ghana	0	0	0	0	0	0	0	0	0
Greece	0	7	2	2	3	49	1	0	64
Guatemala	4	0	5	0	5	6	1	14	35
Guinea	0	0	0	0	0	0	0	0	0
Guyana	0	0	0	0	1	1	0	0	2
Haiti	0	0	0	0	0	2	0	1	3
Honduras	1	0	1	0	0	4	0	0	6
Hong Kong	0	0	0	0	0	0	0	0	0
Hungary	0	0	0	0	0	1	0	0	1
Iceland	0	0	0	0	0	0	0	0	0
India	2	0	0	4	0	12	0	0	18
Indonesia	0	0	0	0	1	0	0	0	1
Iran	2	8	6	1	5	15	3	0	40
Iraq	0	0	0	1	0	1	0	2	4
Ireland	4	19	4	2	1	13	2	2	47
Israel	2	6	0	1	18	72	4	1	104

B (CONTINUED)

Total	Kidnapping	Barricade and Hostage	Bombing	Armed Assault or Ambush	Hi-jacking	Assassination	Incendiary Device or Arson	Other
Italy	4	2	45	6	2	3	41	5
Ivory Coast	0	0	0	0	0	0	0	0
Jamaica	0	0	4	1	1	0	0	0
Japan	0	0	3	0	2	0	9	3
Jordan	4	1	8	6	1	1	3	6
Kampuchea	0	0	6	0	0	1	0	0
Kenya	0	0	0	1	0	0	0	0
Korea (North)	0	0	0	0	0	0	0	0
Korea (South)	0	0	0	0	0	1	0	0
Kuwait	0	1	3	1	0	2	1	2
Laos	0	0	2	1	0	0	0	0
Lebanon	15	6	52	31	12	7	2	11
Lesotho	0	0	0	0	0	0	0	0
Liberia	0	0	0	0	0	0	0	0
Libya	0	0	0	1	2	1	2	0
Madagascar	0	0	0	0	0	0	0	0
Malagasy Rep.	0	0	0	0	0	0	0	0
Malawi	0	0	0	0	0	0	0	0
Malaysia	0	1	6	1	1	0	0	0
Mali	0	0	0	0	0	0	0	0
Mauritania	2	0	0	0	0	0	0	0

B (CONTINUED)

	Other	Incendiary Device or Arson	Assassination	Hi-jacking	Armed Assault or Ambush	Bombing	Barricade and Hostage	Kidnaping	Total
Mexico	1	3	1	1	5	25	3	11	50
Mongolia	0	0	0	0	0	0	0	0	0
Morocco	0	0	0	0	1	2	0	0	3
Mozambique	0	0	0	0	2	0	0	0	2
Namibia	0	0	0	0	0	0	0	0	0
Nepal	0	0	0	0	0	1	0	1	2
Netherlands	4	7	2	3	1	10	8	0	35
New Zealand	0	1	0	0	0	1	0	0	2
Nicaragua	3	0	0	2	3	2	3	2	15
Niger	0	0	0	0	0	0	0	0	0
Nigeria	0	0	0	0	0	0	0	0	0
Norway	0	1	1	0	0	0	0	0	2
Oman	0	0	0	0	1	0	0	0	1
Pakistan	3	5	0	1	5	8	1	0	23
Panama	0	2	0	1	0	2	0	0	5
Paraguay	0	0	0	0	2	0	0	1	3
Puerto Rico	0	0	2	1	2	27	1	0	33
Peru	2	6	0	0	4	19	0	1	32
Philippines	1	3	2	5	5	12	0	8	36
Poland	0	0	0	0	0	0	0	0	0
Portugal	2	0	0	0	1	12	0	0	15

B (CONTINUED)

	Other	Incendiary Device or Arson	Assassination	Hijacking	Armed Assault or Ambush	Bombing	Barricade and Hostage	Kidnaping	Total
Romania	0	0	0	0	0	0	0	0	0
Rwanda	0	0	0	0	0	0	0	0	0
Saudi Arabia	0	1	0	0	1	1	0	0	3
Senegal	0	0	0	0	0	0	0	0	0
Sierra Leone	1	0	0	0	0	0	0	0	1
Singapore	0	2	0	0	0	1	0	0	3
Somalia	0	1	0	0	0	0	0	1	2
South Africa	0	0	0	0	0	1	1	1	3
Spain	1	11	1	2	5	33	1	5	59
Sri Lanka	0	1	0	0	0	0	0	0	1
Sudan	0	0	0	0	0	1	1	0	2
Swaziland	0	0	0	0	0	1	0	0	1
Sweden	1	1	1	1	0	6	3	0	13
Switzerland	2	3	0	1	1	11	0	0	18
Syria	1	0	0	0	1	8	1	0	11
Taiwan	0	0	0	0	0	1	0	0	1
Tanzania	0	0	1	0	0	0	1	0	2
Thailand	1	0	0	1	2	4	1	1	10
Togo	0	0	0	0	0	0	0	0	0
Trinidad & Tobago	1	0	0	0	0	1	0	0	2
Tunisia	0	0	0	2	0	0	1	1	3

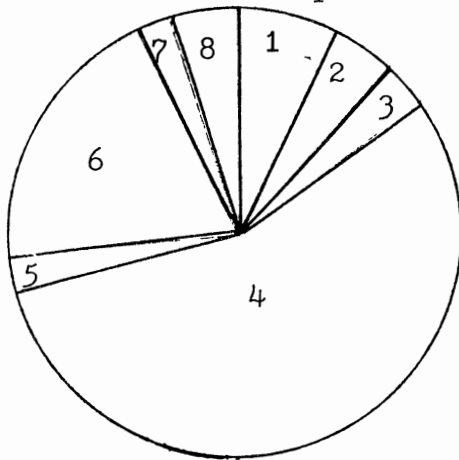
	Other	Incendiary Device or Arson	Assassination	Hi-jacking	Armed Assault or Ambush	Bombing	Barricade and Hostage	Kidnapping	Total
Turkey	3	5	0	1	17	63	2	4	95
Uganda	0	0	0	0	2	1	0	1	4
United Arab Emir.	0	0	0	0	0	1	0	0	1
United Kingdom	10	10	6	0	11	167	2	2	209
USSR	2	0	0	0	0	0	0	0	4
United States	9	55	8	48	17	182	7	2	328
Upper Volta	0	0	0	0	0	0	0	0	0
Uruguay	12	3	0	1	3	4	0	8	31
Venezuela	2	5	0	1	7	6	0	2	23
Vietnam	0	0	0	0	0	0	0	0	0
Yemen (Aden)	0	0	1	0	0	0	0	0	1
Yemen (Sana)	0	0	0	0	0	1	0	0	1
Yugoslavia	1	2	0	0	2	2	0	0	7
Zaire	0	0	1	0	1	0	0	1	3
Zambia	0	0	1	0	0	5	0	0	6
Zimbabwe	1	0	1	1	14	2	0	3	22

APPENDIX C

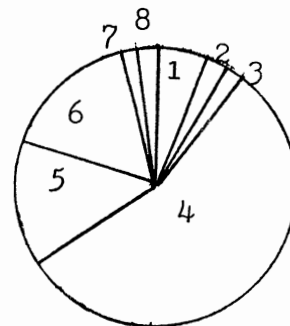
PIE CHARTS

Regional

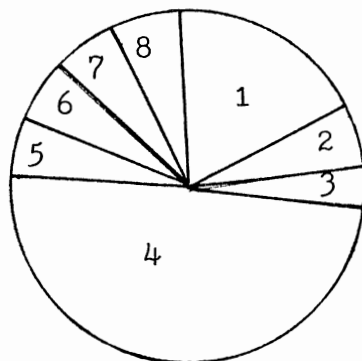
Western Europe



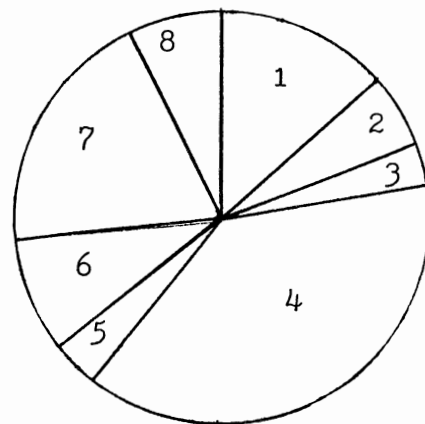
North America



Latin America



Middle East/North Africa



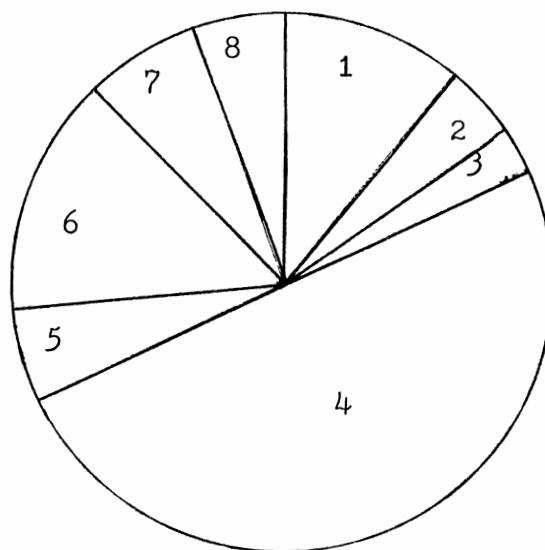
1. Armed Assault/Ambush
2. Assassination
3. Barricade and Hostage
4. Bombing

5. Hijacking
6. Incendiary Device/Arson
7. Kidnapping
8. Other

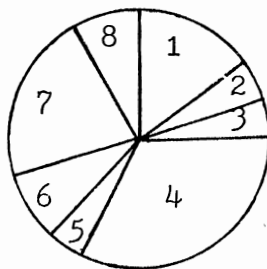
C (CONTINUED)

Level of Urbanization

High



Low

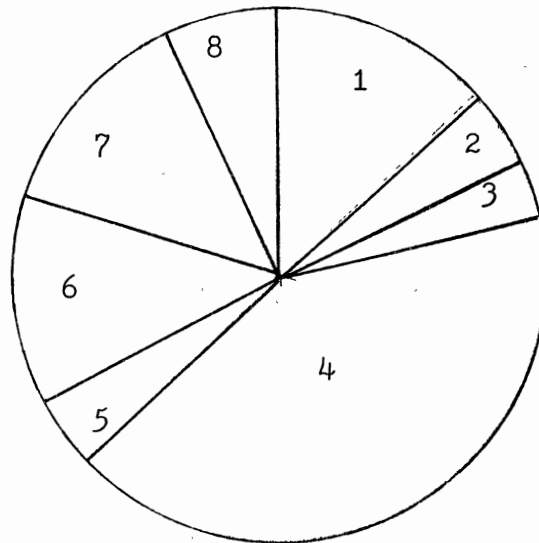


- | | |
|--------------------------|----------------------------|
| 1. Armed Assault/Ambush | 5. Hijacking |
| 2. Assassination | 6. Incendiary Device/Arson |
| 3. Barricade and Hostage | 7. Kidnapping |
| 4. Bombing | 8. Other |

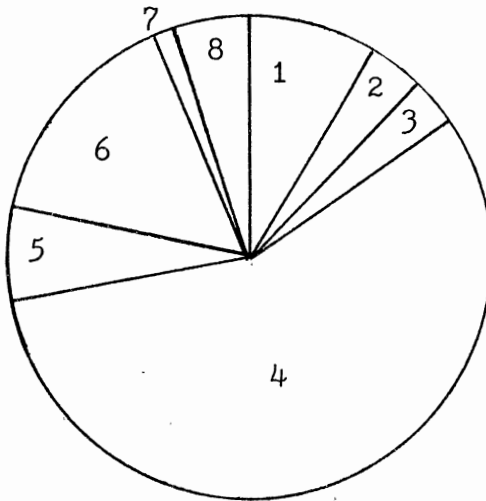
C (CONTINUED)

Economic

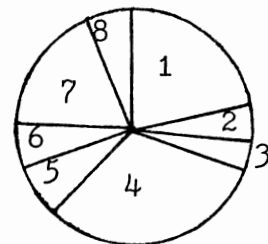
Medium



High



Low



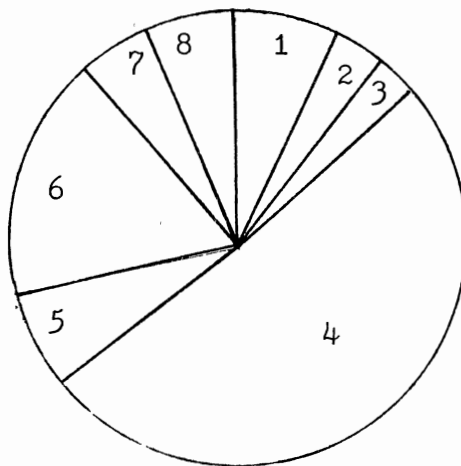
1. Armed Assault/Ambush
2. Assassination
3. Barricade and Hostage
4. Bombing

5. Hijacking
6. Incendiary Device/Arson
7. Kidnapping
8. Other

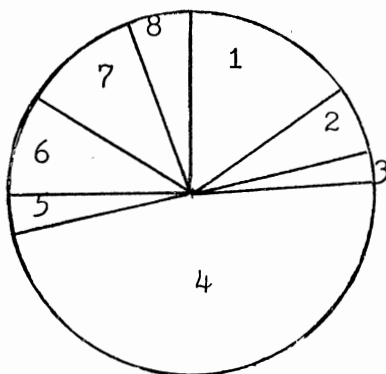
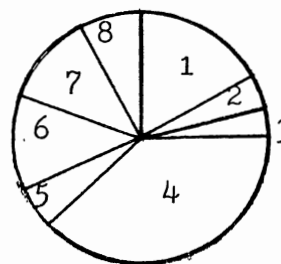
C (CONTINUED)

Freedom of the Press

Complete



Intermittent

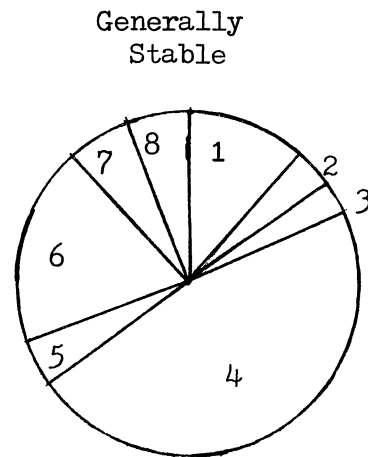
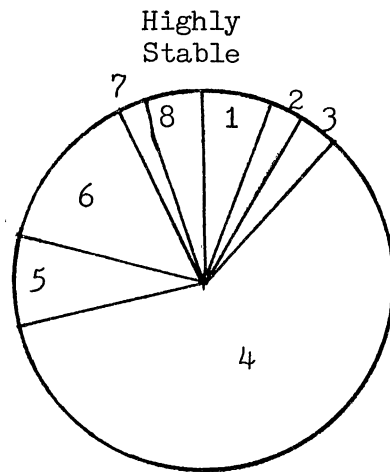
Internally and/or
Externally
Absent

1. Armed Assault/Ambush
2. Assassination
3. Barricade and Hostage
4. Bombing

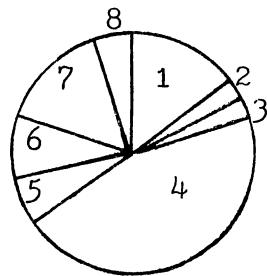
5. Hijacking
6. Incendiary Device/Arson
7. Kidnapping
8. Other

C (CONTINUED)

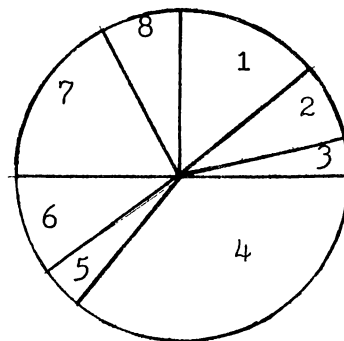
Governmental Stability



Moderately Stable



Unstable



1. Armed Assault/Ambush
2. Assassination
3. Barricade and Hostage
4. Bombing

5. Hijacking
6. Incendiary Device/Arson
7. Kidnapping
8. Other

2
VITA

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